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# NAVAL POSTGRADUATE SCHOOL

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## THESIS

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A COMPARATIVE ANALYSIS BETWEEN THE  
PORTUGUESE AIR FORCE  
AND THE UNITED STATES AIR FORCE  
BUDGETING PROCESSES

by

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December 1986

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**A Comparative Analysis Between the Portuguese Air Force  
and the United States Air Force Budgeting Processes**

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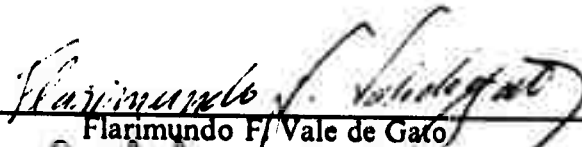
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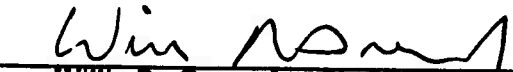
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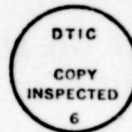
  
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## ABSTRACT

The purpose of this thesis is to find meaningful ways to improve the budgeting processes followed by the Portuguese Air Force and the United States Air Force. Although applied differently in several aspects, PPBS makes up the theoretical framework of both Air Force's budgeting systems, making them comparable to a great extent.

The thesis describes, analyzes, and evaluates the major phases, steps and procedures of both Air Forces' budgeting processes, especially within their organizational structure and with emphasis at field level. From a systematic comparison between the two budgeting processes, the most relevant similarities and differences are outlined and important problem areas are identified. Concrete solutions are recommended for the improvement of such areas, relative to both Air Forces.

*Keywords: ZBBS (Zero Base Budgeting System);  
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## TABLE OF CONTENTS

I.	INTRODUCTION .....	11
A.	BACKGROUND AND MOTIVATION .....	11
B.	THESIS PURPOSE .....	11
C.	QUESTIONS TO BE ADDRESSED .....	12
D.	METHODOLOGY .....	13
E.	ORGANIZATION OF THESIS CHAPTERS .....	13
II.	REVIEW OF PPBS AND ZBBS .....	14
A.	INTRODUCTION .....	14
B.	REVIEW OF PPBS .....	14
1.	Definition .....	14
2.	Phases of PPBS .....	15
C.	REVIEW OF ZBBS .....	17
1.	Definition .....	17
2.	Decision Units .....	17
3.	Decision Packages .....	18
4.	Performance Evaluation .....	19
5.	Final Considerations .....	19
D.	DIFFERENCES BETWEEN PPBS AND ZBBS .....	20
III.	ANALYSIS OF THE BUDGETING PROCESS IN THE USAF .....	21
A.	HISTORICAL REVIEW .....	21
1.	The 1947-61 Period .....	21
2.	The PPBS Period .....	21
3.	The ZBBS Experience .....	22
B.	ORGANIZATION STRUCTURE OF THE USAF .....	22
C.	DESCRIPTION OF THE ACTUAL BUDGETING SYSTEM .....	24
1.	Structural Analysis of the Fiscal-Year Defense Program .....	24
2.	Phases of the Budgeting Process .....	28

D.	EVALUATION OF THE BUDGETING PROCESS .....	36
1.	Degree of Application of PPBS and ZBBS .....	37
2.	Bureaucratic Problems Related with PPBS and ZBBS .....	37
3.	Helpfulness of PPBS Regarding the Decision-Making Process .....	38
4.	Influence of Top Management Style .....	38
5.	Involvement and Support by Top Management .....	39
6.	People Involved in the Budgeting Process .....	40
7.	The Control Function .....	40
8.	Interdependence Between Plans and Programs, and Budgets .....	42
9.	Criteria to Allocate Common Costs .....	43
10.	Evaluation of the MIS .....	43
11.	The Role of the Air Force Wide Mission Area Analysis (AFWMAA) .....	44
12.	Rating the Budgeting Process .....	45
13.	Expenses Versus Expenditures .....	45
14.	Summary .....	46
IV.	ANALYSIS OF THE BUDGETING PROCESS IN THE PAF .....	49
A.	HISTORICAL REVIEW .....	49
B.	ORGANIZATIONAL STRUCTURE OF THE PAF .....	49
C.	DESCRIPTION OF THE ACTUAL BUDGETING SYSTEM .....	50
1.	Introduction .....	50
2.	The Budget by Programs .....	50
3.	Phases of the Budgeting Process .....	56
D.	EVALUATION OF THE ACTUAL BUDGETING PROCESS .....	63
1.	Degree of Application of PPBS and ZBBS .....	63
2.	Bureaucratic Problems Related with the New System .....	63
3.	Helpfulness of the New System Regarding the Decision- Making Process .....	64
4.	Influence of Top Management Style .....	64
5.	Involvement and Support by Top Management .....	64
6.	People Involved in the Budgeting Process .....	65
7.	The Control Function .....	65

8.	Interdependence Between Plans and Programs, and Budgets .....	66
9.	Criteria to Allocate Common Costs .....	66
10.	Evaluation of the MIS .....	67
11.	Rating the Budgeting Process .....	67
12.	Expenses Versus Expenditures .....	67
13.	Summary .....	68
V.	<b>SIMILARITIES AND DIFFERENCES BETWEEN THE TWO BUDGETING PROCESSES .....</b>	<b>70</b>
A.	INTRODUCTION .....	70
B.	SIMILARITIES .....	70
1.	Similarities in the Budgeting Structure .....	70
2.	Similarities in the Phases of the Budgeting Process .....	70
3.	Similarities in Evaluation and Performance .....	71
C.	DIFFERENCES .....	72
1.	Differences in the Budgeting Structure .....	72
2.	Differences in the Phases of the Budgeting Process .....	73
3.	Differences in Evaluation and Performance .....	75
D.	AREAS FOR POSSIBLE IMPROVEMENT .....	76
1.	In the USAF Budgeting Process .....	76
2.	In the PAF Budgeting Process .....	77
VI.	<b>CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>79</b>
A.	CONCLUSIONS .....	79
B.	RECOMMENDATIONS .....	81
1.	USAF Budgeting Process .....	81
2.	PAF Budgeting Process .....	82
3.	Future Research .....	84
	<b>APPENDIX : QUESTIONNAIRE .....</b>	<b>85</b>
	<b>LIST OF REFERENCES .....</b>	<b>92</b>
	<b>BIBLIOGRAPHY .....</b>	<b>94</b>
	<b>INITIAL DISTRIBUTION LIST .....</b>	<b>95</b>

## LIST OF FIGURES

3.1	Draft of the Organization Chart (simplified) of the USAF .....	23
3.2	Five Year Defense Program Elements .....	25
3.3	Planning, Programming, and Budgeting Schedule for FYDP 1991-95 .....	29
3.4	Summary of the Answers to the Five-point Scale Questions .....	47
4.1	Draft of the Organization Chart (simplified) of the PAF .....	51
4.2	Structure of the Budget by Programs .....	53
4.3	Planning, Programming, and Budgeting Schedule for Fiscal Year 1989 .....	58



## LIST OF ABBREVIATIONS AND ACRONYMS

AF	- Air Force
AFB	- Air Force Base
AFC	- Air Force Council
AFWMAA	- Air Force Wide Mission Area Analysis
ASB	- Air Staff Board
BES	- Budget Estimate Submission
BRD	- Budget Review Board
BU	- Base Unit
CBAS	- Command Budget Automated System
CC	- Cost Center
C/C	- Class/Category
CEMFA	- Chief of Staff of the Air Force
CLAFA	- Logistics Command
CSAF	- Chief of Staff of the Air Force
DG	- Defense Guidance
DGCP	- Budget Governmental Agency
DOD	- Department of Defense
DPP	- Preliminary Planning Directive
DRB	- Defense Resources Board
EEIC	- Element of Expense/Identification Code
EMGFA	- Armed Forces Headquarters
FC	- Functional Category
FMB	- Financial Management Board
FMC	- Financial Management Committee
FMS	- Foreign Military Sales
FYDP	- Fiscal Year Defense Program
FWG	- Financial Working Group
JCS	- Joint Chiefs of Staff
JIEP	- Joint Intelligent Estimate for Planning
JSPD	- Joint Strategic Planning Document
MAJCOM	- Major Command

<b>MAP</b>	- Military Assistance Program
<b>MAPPER</b>	- Maintaining, Preparing, and Processing Executive Reports
<b>MFP</b>	- Major Force Program
<b>MIS</b>	- Management Information System
<b>NATO</b>	- North Atlantic Treaty Organization
<b>OMB</b>	- Office of Management and Budget
<b>OSD</b>	- Office of the Secretary of Defense
<b>PAF</b>	- Portuguese Air Force
<b>PBD</b>	- Program Budget Decision
<b>PDM</b>	- Program Decision Memorandum
<b>PDP</b>	- Program Decision Package
<b>PE</b>	- Program Element
<b>PGM</b>	- Planning Guidance Memorandum
<b>POM</b>	- Program Objective Memorandum
<b>PPBS</b>	- Planning, Programming, and Budgeting System
<b>PRC</b>	- Program Review Committee
<b>RC</b>	- Responsibility Center
<b>RDT&amp;E</b>	- Research, Development, Test, and Evaluation
<b>RMS</b>	- Resource Management System
<b>SECAF</b>	- Secretary of the Air Force
<b>SECDEF</b>	- Secretary of Defense
<b>US</b>	- United States
<b>USAF</b>	- United States Air Force
<b>ZBBS</b>	- Zero-Base Budgeting System

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## **I. INTRODUCTION**

### **A. BACKGROUND AND MOTIVATION**

There have been several factors that, along with economic and political difficulties, have determined increased cuts for the Portuguese Armed Forces budgets.

During the last years a wave of anti-militarism and pacifism has been arising in Western Europe, including Portugal. Also, due to the fact that Portugal has excellent relations with its neighbors (Spain and Morocco), the Portuguese people do not feel any threat. Consequently, they think and claim that the military is spending important resources which could be better applied to civilian purposes.

The budgets for each service (Army, Navy and Air Force) are, to some extent, the result of tight discussion and bargaining with the Government and the Parliament, as well as among the services themselves. Whoever presents the best arguments is likely to obtain a more generous budget.

These were the main issues which led the Portuguese Air Force (PAF) to implement in 1981 a new budgeting process based essentially on the Planning, Programming, and Budgeting System (PPBS) and on the French system "La Rationalization des Choix Budgetaires", and became the first public organization to do so. With this new budgeting process, top managers expected to provide full information to the Government and Parliament, and to strengthen the arguments and justifications during the discussion and bargaining process.

Insofar as the author was involved in the implementation of this new system, he has a somewhat accurate perception of the difficulties and problems related with it. A great part of these problems were not solved three years after implementation and, as far as is known, some of the problems could still be unresolved. Therefore, it was felt that studying at the Naval Postgraduate School could provide opportunities to obtain important thoughts and findings in order to improve the PAF budgeting process. These reasons constitute the motivation for the selection of the thesis topic.

### **B. THESIS PURPOSE**

The purpose of this thesis is to find meaningful ways to improve the budgeting processes followed by the PAF and the United States Air Force (USAF). This will be achieved through a comparative analysis of the main steps of the budgeting processes

used in both Air Forces. The principal concern is to identify policies, procedures, practices and methods applied more efficiently in one Air Force that could be adopted by the other.

Inasmuch as the USAF has been using PPBS for more than two decades, while the PAF adopted the actual system in 1981, it is expected that the greater and longer experience of the USAF budgeting process will be useful for the solution of some of the PAF budgeting problems. In addition, an attempt is made to identify some methods and procedures developed by the PAF budgeting process that could give some positive contributions to improvements to the USAF budgeting process.

Since the military uses scarce resources whose opportunity costs can be more or less accurately estimated, the Government and the Congress in both countries have been requiring more and more explanations and justifications about the military goals, programs and budgets. This thesis provides some relevant contribution to such requirements.

### **C. QUESTIONS TO BE ADDRESSED**

This study focuses special attention on the budgeting, execution, and control phases at Base level, and addresses the question: what methods and practices followed by one of the budgeting processes can be useful to improve the performance of the other?

Other subsidiary questions will be addressed throughout the analysis, such as:

- a. What criteria should be used to allocate common costs to the responsibility centers?
- b. How effective has been the control function during the execution phase?
- c. How efficient has been the application and utilization of a computerized Management Information System (MIS)?
- d. How effective have been the contribution, involvement, and support of the players (at all levels of management) during all phases, of the budgeting process?
- e. To what extent and how successful for the decision-making process have PPBS and Zero-Base Budgeting System (ZBBS) been applied in both budgeting processes?
- f. Is it possible and worthwhile to develop an accounting system established on an expense basis rather than on an expenditure basis?

These constitute some of the questions for which an attempt was made to find adequate answers. Other issues were treated and analyzed as they arose during the development of the study.

## **D. METHODOLOGY**

In an attempt to answer the questions in the preceding section, the analysis was conducted through the application of three different research methods:

- a. Literature search of available material in both countries (books, reviews, manuals, regulations, reports, instructions and other publications).
- b. Questionnaire-survey sent to 52 comptrollers of USAF bases located inside the United States (a copy of this questionnaire is presented as Appendix).
- c. Personal interview with the budget officer of Travis Air Force Base.

In addition, the writer's experience in the budgeting process during several years was applied throughout the development of the study. The relevant data and information collected about both Air Forces are compared and recommendations are made.

## **E. ORGANIZATION OF THESIS CHAPTERS**

Chapter II briefly presents a review of PPBS and ZBBS to the extent that these budgeting systems make up the framework of the actual budgeting processes followed by both Air Forces. Chapter III describes the actual budgeting process used in the USAF and analyzes and discusses its structure, processing system (sub-systems, practices, methods, means) and outputs (control, feedback, variance analysis). It also examines and discusses the data collected through the responses received to the questionnaire. Without performing a deep statistical analysis, all the questions are examined separately, considering the respective answers, and the main conclusions are described as thoroughly as possible. An historic review of prior budgeting processes applied by the USAF is presented as an introduction. Chapter IV contains an overall description, analysis, and evaluation of the actual budgeting process followed by the PAF, presented in a comparable format to Chapter III. Chapter V highlights the principal similarities and differences between the two processes and points out areas for improvement. Chapter VI summarizes and evaluates all relevant aspects from the preceding chapters, identifies the most significant findings, drafts the conclusions, and presents some recommendations.

## **II. REVIEW OF PPBS AND ZBBS**

### **A. INTRODUCTION**

This chapter outlines a brief review of PPBS and ZBBS, which are two budgeting systems that make up the framework of the actual budgeting processes in the public sector of most Western countries. These techniques have been treated extensively by various authors and experts, in order to determine the strengths (and weaknesses) of these techniques that can justify their increased applicability not only in the public sector but in the private sector as well.

### **B. REVIEW OF PPBS**

#### **1. Definition**

PPBS can be viewed as a management tool which has emerged from the development of new disciplines such as Contingency Theory, Systems Analysis, Operations Research, and Cybernetics. It was first developed and implemented in the Department of Defense (DOD) in 1961, during Robert McNamara's term as Secretary of Defense [Ref. 1: p. 17], in order to introduce a rational and comprehensive approach to the allocation of finite and scarce resources. PPBS can be defined as a management system designed to:

- a. Identify and establish the organization's goals and objectives (Planning).
- b. Develop and structure alternative courses of action in order to accomplish those goals and objectives (Programming).
- c. Estimate the resource requirements for each alternative and allocate the needed funds to the selected alternative to attain the desired outcomes (Budgeting).
- d. Monitor the results of the implementation of the selected alternative in order to improve the performance of the preceding phases (feedback process) on a permanent basis, providing a bridge between output and input questions (Execution and Control).

PPBS is program-oriented and follows a seven-year pattern: the previous year, the present year, the budget year being considered (the next year), and four subsequent years. In many areas resource allocations require projections of plans and programs beyond the defined multi-year program, for ten or more years into the future on a basis of a long-range horizon. In these cases the full life-cycle cost of accomplishing an objective is considered.

Instead of concentrating on the costs related with the objects to be acquired or used (e.g., the costs of materials, the salaries of personnel, and the costs of equipment), this budgeting theory transfers the focus to the purposes and results to be obtained. Thus, related activities to achieve a main objective are identified and grouped in a main program. Main programs are separated into sub-programs in order to accomplish specified sub-objectives. The sub-programs can be divided into program elements associated with objectives at lower levels.

Although an annual review and reevaluation of every aspect of every program is performed, the review effort is focused primarily on the upcoming budget year, rather than on the full five-year program (the budget year and four subsequent years). For evaluating the different alternatives related to each program, a systematic analysis of costs and benefits is made through the development and use of the most efficient ways of reaching program objectives.

PPBS implies a decentralized or participative management, inasmuch as low level managers can develop their own programs and be responsible for the outcomes and the degree of achievement of the stated objectives. Top level management has the prerogative of deciding what to do, how much to do, and when to do it, but low level managers decide how to carry on day-to-day operations.

Because the major output programs identified in DOD are common for the conventional services (Army, Navy, Air Force), high level decision-making is centralized in the Office of the Secretary of Defense (OSD). However, this centralized responsibility in OSD only deals with broad policy guidance, since detailed program direction is decentralized to the services.

## **2. Phases of PPBS**

The different phases of PPBS are developed through an annual cycle, to ensure an ordered approach and the most appropriate linkage among them and between the execution and control phase. [Ref. 1: pp. 15-19 and 105-106]

### ***a. The Planning Phase***

As the first phase of the system, planning is dependent on the changing political environment . Consequently, planning should be limited to as short a period as practicable that will allow the plans to be coherent. The establishment and adoption of plans project into the future the foreseeable implications of current decisions, and will provide an integrated multi-year overview to guide the development of programs in the programming phase.



### ***b. The Programming Phase***

This phase also has a multi-year perspective, and begins with an effort to identify and define the organization's activities, grouping them into programs that can be related to each objective. Alternative programs should be considered and their costs and expected outputs evaluated and compared through a cost benefit or cost effectiveness analysis. The relationship of each program with specified objectives should be emphasized along with the contribution of each program to the achievement of the same objectives, to ensure that the top level decision-maker can judge among several alternatives. On the other hand, since the limited and scarce resources do not permit reaching all the goals, the organizational objectives should be restructured or reordered as a function of the outcomes met in this programming phase.

A program memorandum is to be developed by each department for each program, containing an outline of the alternative courses of action available for the activities of the program. Formal analysis of quantitative and qualitative information to support the decisions within each program memorandum is to be provided by each department.

### ***c. The Budgeting Phase***

Since plans and programs are to drive the budget, the budgeting phase is limited to pricing accurately the programs selected in the programming phase for the upcoming year. While the planning and programming phases are conducted with primary attention on outputs, the budgeting phase is more oriented to the inputs, in order to measure in dollar amounts the value of the resources required to achieve the objectives related to each adopted program.

### ***d. The Execution and Control Phases***

Historically, too little attention has been given to the evaluation of program execution and control. As a result, there has been limited feedback to policy makers and programmers. Nevertheless, review and feedback mechanisms are important elements of PPBS that improve the performance of the preceding phases of future cycles. Thus, a circular model of planning, programming, budgeting, execution and control will be assured. Actual achievements should be evaluated against the stated objectives on a continuous basis, in order to make the required corrections in the execution process and or reexamine the programs and plans, to determine needs for changes. Therefore, the accounting, statistical, and control reporting systems need to be tailored to produce an adequate level and kind of information in the most correct

manner. This information should be available at the appropriate point in the decision-making process, to enable managers at different levels to take the most adequate corrective action relative to all phases of the budgeting process.

## **C. REVIEW OF ZBBS**

### **1. Definition**

The Zero-Base Budgeting System (ZBBS) is a newer budgeting theory requiring the justification of the budgets at zero funding level, without any regard to past history. ZBBS was first implemented in the private sector by Texas Instruments, Inc., in 1970. In 1973 this budgeting concept was introduced in the state of Georgia by Governor Jimmy Carter with successful results. In 1977 Mr. Carter, as President of the United States, issued a directive to all Federal Agencies to implement ZBBS as a budgeting and management tool. [Ref. 2: pp. 57-59]

Allan Austin [Ref. 3: p. 5] quoting Peter Pyhrr, defines ZBBS as follow:

An operating, planning, and budgeting process which requires each manager to justify his entire budget request in detail from scratch and shifts the burden of proof to each manager to justify why he should spend any money at all. This approach requires that all activities be identified in "decision packages" which shall be evaluated by systematic analysis in rank order of importance.

The most important innovation brought by this theory is that the managers are required to analyze each budget item, whether already existing or newly proposed, instead of justifying only the increases above last year's level. The rationale is that past expenses should not be repeated by the same amount in future years, and that substantial savings can be realized.

ZBBS combines within a systematic framework a number of techniques used in PPBS each time a budget is prepared. These include cost/benefit and cost/effectiveness analysis, alternative analysis, incremental analysis, line-item budgeting, and performance measurement. Although increased management participation is required at all organization levels, the emphasis is focused on the intermediate manager through the identification of decision units.

### **2. Decision Units**

A decision unit is a separate grouping of related activities for which an input can be determined and an output can be defined, and for which a manager can be held responsible. A decision unit can be a responsibility center, a cost center, a group of

people performing the same function, a staff office, or a multi-functional product, project or program. Peter Sarant [Ref. 4: p. 30] quoting The Office of Management and Budget (OMB) gives the following definition of a decision unit:

The program or organizational entity for which budgets are prepared and for which a manager makes significant decisions on the amount of spending and the scope, direction, or quality of work to be performed.

Decision units should not be so low in the organization's structure that it would result in excessive paperwork, and should not be so high that it would prevent meaningful analysis and review of the work being performed. The manager for each decision unit has the necessary authority to establish objectives, assess alternative ways of accomplishing them, and define priorities through a detailed analysis of each activity. This systematic analysis is viewed as the heart of the process. It should include:

- a. Identification of the purpose and objectives of each activity, group of activities, and the decision unit itself.
- b. Description of the alternative methods of achieving the stated objectives, which would include the measurement of costs and benefits of each alternative, matching the organization's resources to those alternatives and considering the respective output contribution for the organization's goals.
- c. Establishment of priorities for the activities, evaluating the consequences of performing them below current operating levels, and of not performing them at all.
- d. A detailed incremental analysis for the selected alternative, defining a minimum level of service, the current level, and one or more incremental levels, assessing the costs and benefits of each level.

### **3. Decision Packages**

All the information stated above about a set of related activities in a decision unit is outlined in a document called a decision package. The decision packages are the key issues in ZBBS. They provide the basis for management evaluation and decision-making, by the comparison of each one with others. Therefore, the decision packages should be quantified as much as possible in relation to time, performance and work load.

There should be a decision package for each level of effort with a definable result. The decision packages should be grouped in three categories: (1) the minimum level at which the decision unit can operate; (2) the current operating level without major changes; and (3) the incremental or accelerated levels (at least one).

A set of decision packages for each decision unit is prepared by the decision unit manager. This set represents the total potential budget request of the decision unit.

The decision packages are then ranked throughout all levels of management, from lower to top level of management, according to the relative priorities assigned to each of them. This arrangement of the packages in priority order is based on predefined evaluation techniques, employing cost/benefit analysis and using some subjective evaluation. Before decision packages are ranked they should be grouped into one of three categories: (1) those that are legally or functionally required; (2) those that are desired and would not cause relevant damage or disturbance to the normal operations of the organization; and (3) all packages that cannot be easily classified and included into either of the prior two groups. The ranking process can be described as follow:

- a. The lowest level manager responsible for a decision unit ranks all the packages within his individual jurisdiction.
- b. The decision packages are then sent upward through the management hierarchy. In each level, the packages received from subordinate units, (along with the packages generated in the level itself) are reviewed, consolidated and reranked. This process continues until top level management where the final decision is made.
- c. At each management level a cutoff funding line is established defining an appropriate level of affordability. This line divides the packages into two groups. The packages included in the group above the cutoff level will be approved while all the others will be deferred or eliminated.

#### **4. Performance Evaluation**

Once the packages are approved and their execution begins and progresses, performance evaluation should be done on a consistent basis to assure achievement against the commitments. This may include monthly financial review and quarterly output review of each decision unit. This feedback information should be provided to all level managers in order to maintain or modify objectives, resources or program activities.

#### **5. Final Considerations**

ZBBS involves decision-making at all levels of management, requiring the involvement and interaction of managers in all directions (top-down, bottom-up, and at the same level). This process fosters decentralization and participation in the decision-making process at lower levels, expands management training, stimulates creativity, and improves the degree of understanding about the organization as a whole. However, several criticisms have been made about ZBBS which have led to a continuous decrease of enthusiasm about its implementation and use, especially in the public sector. These criticisms include:

- a. Difficulty in setting a coherent set of objectives for each decision unit that fits with the overall organization objectives and strategies.

- b. Requiring more innovative and creative personnel to develop appropriately all phases of the process.
- c. No significant improvement in the efficiency of allocation of the organization's resources.
- d. The multiple package levels, narratives, and prioritization created huge volumes of time-consuming paperwork.
- e. It could be quite adequate for small organizations with consistent goals, but it is not designed for large, multi-level hierarchies whose subunits may have competitive objectives.

According to one of the critics, Robert Anthony, [Ref. 5: p. 22] professor of management at Harvard Business School:

Compared with the procedures that are already in use in the federal government, it has nothing of substance to offer. The new parts are not good, and the good parts are not new.

#### **D. DIFFERENCES BETWEEN PPBS AND ZBBS**

The main differences between PPBS and ZBBS can be summarized as follow:

- a. ZBBS requires the preparation of at least three levels of effort for each program activity (decision package), while PPBS addresses only the "best" alternative.
- b. The priority ranking of all programs/activities (decision packages) performed in ZBBS is not made in PPBS.
- c. All new and ongoing programs are annually reviewed on a zero-base basis under ZBBS, while such review involves only selected ongoing programs under PPBS.

These differences constitute the direct causes of the huge increase in time spent and paperwork driven by ZBBS. The new costs incurred seem to outweigh the new gained benefits. As a result, the implementation and use of ZBBS have been declining, especially in the public sector, while PPBS has been expanding with successful results.

### **III. ANALYSIS OF THE BUDGETING PROCESS IN THE USAF**

#### **A. HISTORICAL REVIEW**

The preceding chapter presented an overall description of PPBS as background for the following analysis of this thesis. This chapter starts with a brief historic review of the budgeting processes used in the USAF. The review involves the time period 1947 until now, since the USAF became an independent branch of the Armed Forces on September 18, 1947, with the creation of DOD. The review is to a great extent based on an article from the *Public Administration Review*, July/August 1977. [Ref. 6: pp. 334-346]

Three different budgeting processes have been employed within the USAF. The first system extended from 1947 through 1961; the second (based on PPBS) has prevailed since 1961 until now; and the third was a failed tentative use of ZBBS in 1977. Each of these historical phases will be analyzed below.

##### **1. The 1947-61 Period**

In this period the budget process was based on the imposition of a budgetary ceiling on DOD by the Administration. This ceiling was further allocated to the services and distributed to the various units of each service. Therefore, the budgetary ceilings were the key points; they drove all the budgeting processes. There was no integrated planning, and as a result there was a great deal of duplication of effort by the services in certain areas. The budgets were prepared and presented by line item expenditures only, without any arranged or organized focus on outputs.

##### **2. The PPBS Period**

This period that continues through to the present is characterized by the implementation of PPBS in 1961 based on the Five-Year Defense Program (FYDP). Two distinct phases of PPBS can be identified:

###### ***a. The McNamara Period***

From 1961 through 1968 there were no more imposed ceilings and, theoretically, the budgetary process was to consist only of costing approved programs. Inasmuch as the Secretary of Defense, Robert McNamara, and his staff did the real planning and programming and penetrated to the depths of the individual budgets, the process was overcentralized. As a result, some important phases and steps of PPBS frequently collapsed.

### ***b. The Post-1968 Period***

After Melvin Laird assumed the position of Secretary of Defense (SECDEF) in 1969, some important changes were introduced. The foundation remained on the FYDP, but the emphasis became much more decentralized. Budget ceilings were introduced again, but as a function (theoretically) of the approved plans and programs. The services became free to work on their own budgets in a decentralized manner, only under the constraints of the fiscal guidance. This is the system that, with some degree of natural evolution, has been applied so far. The Reagan Administration has introduced some relevant improvements as a function of the most modern forms of scientific management, increasing the dialogue between the OSD and the military departments. Two of the more important innovations are: (1) the expansion and restructuring of the Defense Resources Board (DRB),<sup>1</sup> adding the service Secretaries as participants; and (2) to invite the Commanders-in-Chief of the Unified and Specified Commands to provide their assessments about the draft of the Defense Guidance first, and then again about the service Program Objective Memorandums (POM) through briefings they provide to the DRB [Ref. 1: p. 21]. The present stage has been called by some experts the "second generation of PPBS".

### **3. The ZBBS Experience**

As mentioned in Chapter II, President Carter introduced ZBBS in 1977. It was only tried for a few years within the mainframe of PPBS, namely the FYDP. The system died when President Carter left office because huge amounts of paperwork were created without perceptible benefits. However, some positive aspects of ZBBS (e.g., the decision packages and the ranking process) are used in various cases whenever they are considered useful.

## **B. ORGANIZATION STRUCTURE OF THE USAF**

The organizational chart of the USAF, exhibited in Figure 3.1 in a rough draft format, shows the structural position of the different organizations within the Air Force, as they are mentioned later in this chapter. The main concern was to show only the organizations more directly involved in the budgeting process. The Separate Operating Agencies and the Direct Reporting Units are set at Major Command (MAJCOM) level, and their subordinate units at Air Force Base (AFB) level.

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<sup>1</sup>A Board formed between Joint Chiefs of Staff (JCS) and OSD levels in order to revise, adjust, and provide advice over the planning and programming documents.

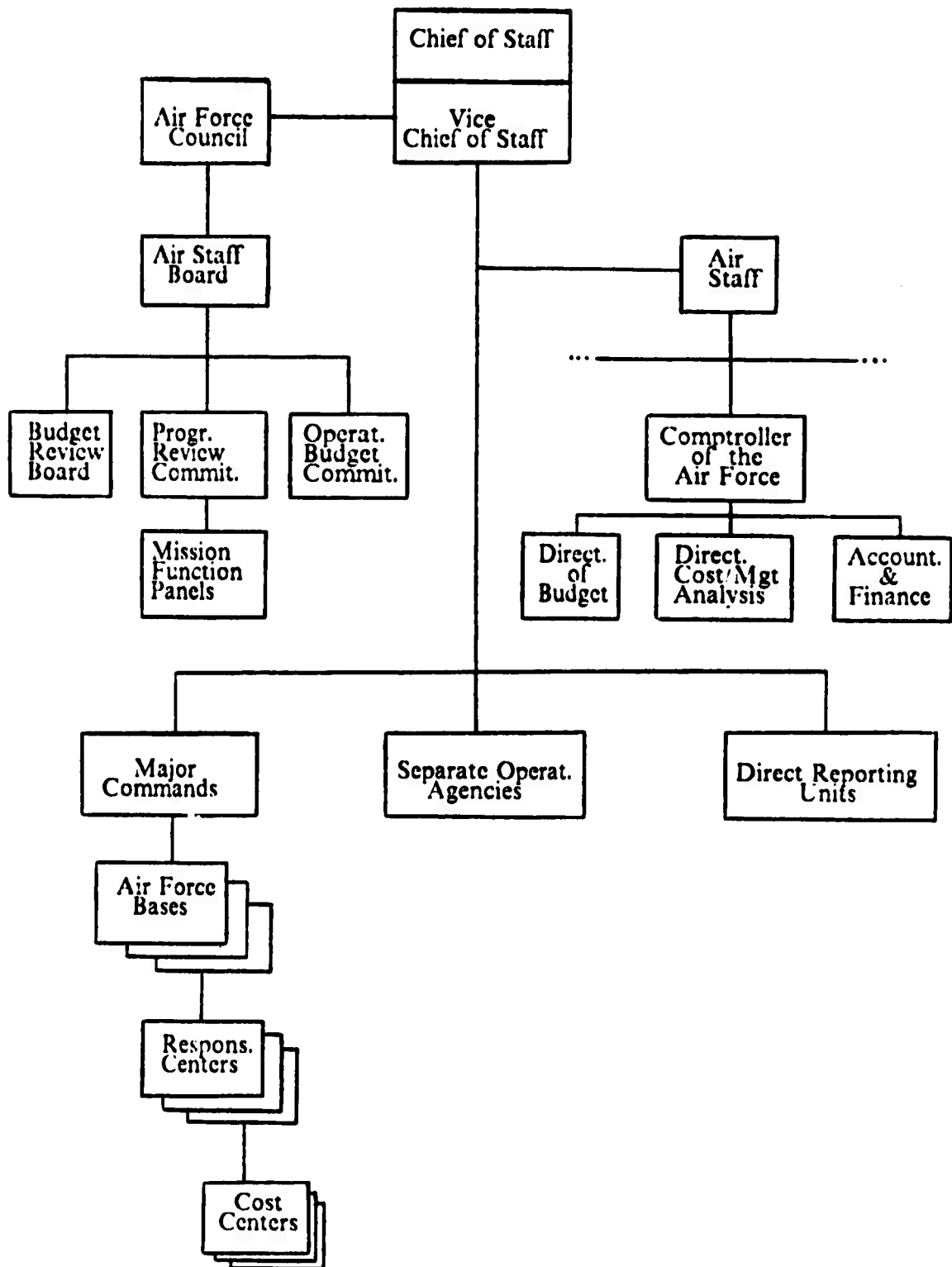


Figure 3.1 Draft of the Organization Chart (simplified) of the USAF.



## **C. DESCRIPTION OF THE ACTUAL BUDGETING SYSTEM**

### **1. Structural Analysis of the Fiscal-Year Defense Program**

The structure of the actual budgeting process followed by the USAF is by and large the structure of PPBS, as presented in Chapter II. Since the FYDP makes up the heart of PPBS, its structure will be fully analyzed in this subsection.

As defined in the Air Force Budget Process [Ref. 7: p. 19] :

The FYDP is the official document which summarizes DOD programs. It is a detailed compilation of the total resources (forces, manpower, procurement, construction, research and development, and operation and maintenance dollars) programmed for DOD, and is arranged by major force program and appropriation.

Within each major force program (MFP), requirements are arranged by program elements (PEs). Consequently, the FYDP is structured along two dimensions: (1) output-oriented focusing on the MFPs; and (2) input-oriented based upon the PEs and their elements (namely, elements of expense) as a common denominator to tie the output and input together. [Ref. 7: pp. 30-31]

The FYDP supports and documents resource allocation decisions, and has the capability of being sorted in many different ways to support a great variety of analysis. To allow this a computer data base system is used which is updated regularly to reflect the recurring decisions.

Along with the MFPs and the PEs, other key elements complete the structure of the FYDP. Those elements are the elements of expense identification codes (EEICs), the functional categories (FCs) and budget activities, and the responsibility centers (RCs) and cost centers (CCs). All these elements are described below and their interrelationships shown in Figure 3.2 [Ref. 8: p. 99].

#### **a. Major Force Programs**

The MFPs are the broadest and most basic structural element of the FYDP. A MFP consists of a broad organization of smaller or specific elements (missions) that either complement each other or are closely related. There are 10 MFPs: the first 6 are independent, force-oriented programs; the other 4 are dependent, support-oriented programs which depend upon the decisions about the force-oriented programs [Ref. 9: pp. 2-3]. The MFPs were established at DOD level and are common for all services. The following definitions of the MFPs are based on "The Air Force Budget Process" [Ref. 7: pp. 30-31].

# BUILDING BLOCK CONCEPT

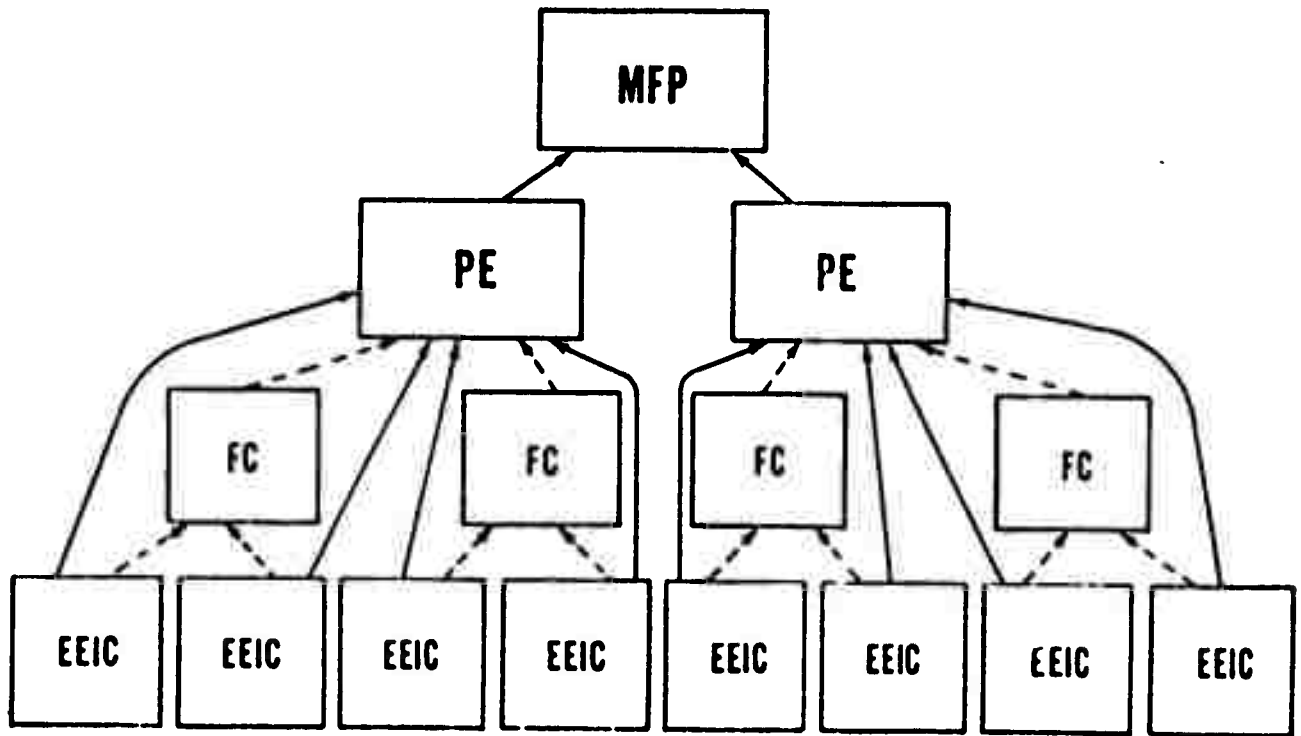


Figure 3.2 Five Year Defense Program Elements.

(1) *Program 1 - Strategic Forces.* Consists of strategic offensive forces and strategic defensive forces, including operational management headquarters, logistics, and associated support organizations.

(2) *Program 2 - General - Purpose Forces.* Consists of combatant forces other than those in program 1, including the command organizations, the logistics organizations, and the related support units, associated with these forces.

(3) *Program 3 - Intelligence and Communications.* Consists of intelligence, security, and communications program elements, including resources related primarily to centrally direct DOD support functions, such as mapping, charting, geodetic activities, weather service, oceanography, aerospace rescue and recovery, nuclear weapons operations, space boosters, satellite control, aerial targets, etc.

(4) *Program 4 - Airlift/Sealift Forces.* Consists of airlift, sealift, traffic management, and water terminal activities, including command, logistics, and support units.

(5) *Program 5 - Guard and Reserve Forces.* Consists of National Guard and Reserve training units in support of all forces included in programs 1, 2 and 4.

(6) *Program 6 - Research and Development.* Consists of all research and development programs and activities that have not yet been approved for operational use.

(7) *Program 7 - Central Supply and Maintenance.* Consists of resources related to supply, maintenance, and service activities, and others supporting activities such as first-and second-destination transportation, oversea port units, industrial preparedness, commissaries, logistics and maintenance support, etc.

(8) *Program 8 - Training, Medical, and other General Personnel Activities.* Consists of resources related to training and education, accessions, personnel services, health care, permanent change of station travel, transients, family housing, and other support activities associated with personnel, except those activities specifically related to or identified with another major program. This MFP is divided into two sub-programs. (1) Training and Other General Personnel Activities, and (2) Medical.

(9) *Program 9 - Administration and Associated Activities.* Consists of resources for the administrative support of departmental and major administrative headquarters, field commands, administration, and associated activities not accounted for elsewhere. Also includes construction support activities and other miscellaneous activities.

(10) *Program 10 - Support of Other Nations.* Consists of resources in support of international activities, including service support to the Military Assistance Program (MAP), Foreign Military Sales (FMS), North Atlantic Treaty Organization (NATO), etc..

***b. Program Elements***

Each MPF is subdivided into more specific mission breakdowns called program elements. A PE consists of a description of a mission by the identification of the organizational entities and resources needed to perform the assigned mission. Resources consists of forces, manpower, material quantities, and cost as applicable. The PE is the basic building block of the FYDI' [Ref. 10: p. 89]

PEs are tied with the MFPs, and with the RCs/CCs through the PE number composition and the EEICs. These EEICs are the means by which expenses are accumulated in each PE. There are over 600 PEs in the USAF which are used and monitored at Headquarters level, by a PE monitor. A PE monitor is the individual designated to exercise overall monitorship over a PE, including preparation of program change proposals and the review, evaluation, and maintenance of all relevant data on the PE. [Ref. 8: p. 145]

***c. Element of Expense/Investment Codes***

Elements of expense correspond to the identification of expenses according to their nature. They identify the type of resources consumed in carrying out a given activity [Ref. 9: p. 4]. As mentioned before, the EEICs constitute the basic input for the PEs at different levels of activity.

***d. Functional Categories***

Functional categories correspond to a classification of broad related groups of expenses subordinate to program elements and tied to the elements of expense, reflecting similar types of effort. These categories are called appropriations [Ref. 10: p. 14]. Air Force funding is planned, approved, released, obligated, tracked and controlled on the basis of five major appropriations:

1. Procurement.
2. Military Construction.
3. Operation and Maintenance.
4. Military Personnel.
5. Research, Development, Test, and Evaluation. [Ref. 7: pp. 52-57]

***e. Responsibility Centers/Cost Centers***

RCs, CCs are the smallest organizations where the costs are accumulated by EEIC. A responsibility center is every unit on an Air Force Base that spends money, and has the responsibility for planning, organizing, directing, and coordinating activities of subordinate organizations and functions [Ref. 11: p. 14]. There are different levels of RCs at an AFB (e.g., Wing, Operations Group, Flying Squadron). A cost center is a subordinate unit within a responsibility center and corresponds to the basic production organization in the chain of command.

***f. The Resource Management System (RMS)***

RMS is a financial management tool that fits together all the elements of the FYDP described above and establishes the rules for their functional interaction. It

was specially designed to be applied to Base-level activities during the budgeting and execution phases of the FYDP. As defined in the "Travis AFB-RMS" manual [Ref. 9: p. 1] RMS constitutes:

The methods and procedures used in DOD that (1) deal with **RESOURCES** (manpower, real property, weapons, equipment, services, material, supplies, and funds); (2) assist in the **MANAGEMENT** of such resources (planning, budgeting, acquisition, use, consumption, storage, and disposition); and (3) provide for a **SYSTEM** of recurring collection of information.

RMS is a decision framework comprised of many levels of review, and is a capable vehicle to ensure mission accomplishment in an austere funding environment. Some of these levels of review are constituted in working groups or committees, as in the cases of the Financial Working Group (FWG) and the Financial Management Board (FMB) at Base level. The FWG is chaired by the Comptroller or the Budget Officer, is composed of representatives of the RCs, CCs, and has the primary function of recommending action to the FMB. The FMB is chaired by the Commander and is composed of senior officials of the major activities on the Base, and reviews and approves or disapproves, recommendations made by the FWG. [Ref. 7: pp. 73-74]

## **2. Phases of the Budgeting Process**

In the preceding section a full description of the structure of the FYDP as the foundation of PPBS was presented. The next step is to review how such a structure works in practice. The different phases of the budgeting process (planning, programming, budgeting, and execution) are analyzed below. The emphasis is placed on the phases, steps, and procedures developed within the organizational structure of the Air Force. In order to help in the understanding of the budgeting process, the fiscal cycle starting in 1991 is used as an example. Figure 3.3 illustrates the sequence of events related to that fiscal cycle.

### ***a. The Planning Phase***

Planning involves the assessment of the threat determining strategy approaches to meet that threat, and evaluates the capabilities (forces and support) necessary to support the different strategies. Three broad time periods are addressed throughout the planning process [Ref. 7: p. 25]:

1. Long-term planning on a period 9 to 20 years.
2. Mid-term planning on a period 2 to 9 years.
3. Near-term planning on the next 2-year period.

Date	ACTION	Resp. Agency
Summer 87	Update JIEP	JCS
Winter 87	Global Assessem. for 1991-2005 & PGM	SECAF & CSAF
Aug 88	Issue 91-98 AF Planning Force	SECAF & CSAF
Fall 88	Strategy & Policy Assess. for 91-98	SECAF & CSAF
Oct 88	Issue JSPD	JCS
Nov 88	Draft Defense Guidance	OSD
Jan 89	Issue Defense Guidance for 91-95	OSD
May 89	Submission of POM for 91-95	SECAF
Jul 89	Issue Books Received & Analyzed	ASB
Jul 89	Issue PDM	SECDEF
Jul 89	Issue Budget Call for 89-91	AF Comptrol.
Sep 89	BES to OSD	CSAF & SECAF
Sep 89	OSD/OMB Reviews	OSD
Oct 89	Issue PBD	SECDEF
Jan 90	FY 91-95 Budget to Congress	President
Mar 90	Call Financial Plans for FY 1991	AF Comptrol.
Jul 90	Financial Plan for 1991 Completed	AF Comptrol.
Sep 90	Completion on Bills & Resolutions	Congress
1 Oct 90	Fiscal Year 1991 Starts	

Figure 3.3 Planning, Programming, and Budgeting Schedule  
for FYDP 1991-95.

The planning process starts with the assessment of the threat. This assessment is primarily developed and updated by the JCS through the Joint Intelligent Estimate for Planning (JIEP) in late summer 1987. Based on this joint assessment and on the MAJCOM inputs, the USAF develops its own global assessment by the winter 1987, providing a long-term view of the environment over the next 20 years. It addresses all USAF mission areas, and postulates Air Force objectives and possible strategies. By the same time the Secretary of the Air Force (SECAF) and the Chief of Staff of the Air Force (CSAF) Planning Guidance Memorandum (PGM) is issued. The PGM contains the top down directives concerning AF objectives and priorities for the effort that is to follow. It is distributed both to the Air Staff and the MAJCOMs. Meanwhile, the Air Force Planning Force for the fiscal years 91-98 begins development in January 88 and is published in August 88. This Planning Force describes the forces required to carry out the AF mission. Finally, the Strategy and Policy Assessment for the same period is developed during the summer and early fall 1988. This mid-term document evaluates current US national security objectives, and military objectives and strategies. [Ref. 7: pp. 20-26]

All these documents constitute the Air Force planning inputs for the JCS for the development of the Joint Strategic Planning Document (JSPD). This document provides advice on policy, national military strategy, and force recommendations, and is issued in October 88 [Ref. 7: p. 26]. Based on JSPD and on the previous years' Defense Guidance (DG), the OSD develops a draft of the DG for the following five-year period, which is distributed top-down in November 88. All levels of management (to Base level) are encouraged to comment and suggest revisions and changes. These comments and suggestions are then submitted to the DRB for review and adjustment. Finally, based on the recommendations of the DRB, the OSD prepares and publishes the DG for the fiscal period 91-95. This provides the definitive guidance from SECDEF on policy, strategy, forces, resource planning, and fiscal levels. The DG is the key OSD planning document containing the result of the overall planning developed up to then, and provides the necessary guidance for the programming phase. The planning phase is essentially completed on the issuance of the DG. [Ref. 7: p. 20]

#### ***b. The Programming Phase***

Programming matches available resources against the most critical needs identified in the planning phase. The main purpose of the programming process is to determine the program best suited to achieve stated military objectives, within the

imposed fiscal constraints through the minimization of the corresponding resource requirements [Ref. 7: pp. 32-33]. Programmers work with planners and have MAJCOMs and field Commanders fully involved to make sure that the threat is not redefined as a function of available dollars because of fiscal constraints.

The current programs, together with the generated, assessed, and proposed alternatives, are all developed in Program Decisions Packages (PDPs). PDPs are entities built to track each AF program. The manpower, logistic support, and pricing in each PDP is a quantity input which is kept updated on an almost daily basis. These PDPs are ranked to ensure that the most important programs are adequately funded, while others may be modified, deferred, or deleted. [Ref. 7,12: p. 32,4]

Working from the guidelines contained in the DG and from the prior year's Program Decision Memorandums (PDMs), the MAJCOMs put together their PDPs. When the PDPs arrive to the AF Headquarters they are distributed among the appropriate panels. There are 13 panels, which are much like mini Air Staffs, and are organized by mission or special interest area. Working with MAJCOMs and with the program element monitors, each panel creates an integrated and balanced program and submits it forward to the Program Review Committee (PRC). The PRC revises the programs and promotes a series of exercises involving the panels and representatives of the MAJCOMs, in order to produce the first AF-wide integrated program listing. This first draft of the POMs with the respective recommendations is then carried forward to the Air Staff Board (ASB). The Board reviews the PRC's recommendations, makes its own judgements, and sends the POMs forward to the Air Force Council (AFC). Finally, the AFC submits the POMs to the CSAF and SECAF for approval. [Ref. 12: pp. 5-7]

The POMs are submitted to OSD around mid-May 89. They define the proposed programs in ranked PDP format for the next five years (91-95 in our example) within the fiscal ceiling for each year established in the DG. Each POM is basically the updated previous year submission with one more fiscal year being added. [Ref. 10: p. 12]

By July 89, as a result of the analysis of the POMs, the OSD produces a series of documents (issue books) categorized by basic mission areas. These books are analyzed at ASB level involving the same players who prepared the POMs. Then the AF position on those issue books is prepared as an input for the generation of the AF PDM. After being revised and adjusted by the DRB, the PDMs (one for each service)



are approved by SECDEF by late July 89. They contain the final decisions on POM proposals and approve POMs as modified by these decisions. Finally, based on the approved PDM, the ASB publishes program documents in order to implement the approved AF programs at various management levels [Ref. 7: p. 33]. This step constitutes the end of the programming phase.

*c. The Budgeting Phase*

The budgeting phase consists of two main steps: (1) formulation and (2) justification and approval. Formulation starts with the issue of the budget calls by the ASB and ends with the submission of the President's Budget to Congress. Justification and approval involve the discussion and hearings at Congressional level, so that Congress can enact legislation that authorizes the budget [Ref. 7: pp. 8-9]. Budgeting involves the refinement of detailed cost quantification of all the activities related with the approved programs included in the PDM. Costs are classified by EEICs and functional categories or appropriations (according to the different activities included in each program element).

The budget formulation process starts with the issuance of internal budget calls, by March 89.<sup>2</sup> The budget calls are a set of very detailed instructions for preparing and submitting the field inputs [Ref. 10: pp. 11-12]. These budget calls are sent to MAJCOMs which, in turn, issue their own budget calls to the field level.

In response to the budget calls a budget request process commences to develop from the lowest level field units up to Headquarters level. These budget requests are proposed for three-year periods: (1) the prior year (the fiscal year in progress at the time the budget calls are issued); (2) the apportionment year (whose budget is in discussion at Congressional level for which appropriation and apportionment will be the next events); and (3) the budget year (the one which will constitute the President's Budget). As a matter of fact, the budget year is the one that really is budgeted since the other two are simply revised.

The lowest level budget requests are prepared by the RCs. A resource advisor appointed by each RC manager is responsible for obtaining the necessary inputs from the respective CCs and for leading all activities regarding to budget preparation at his level. All resource requirements are then identified, quantified and prioritized in three levels: (1) the highest priority including the resources that must be

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<sup>2</sup>Because the time between the receipt of the formal budget calls (in July 89) and the due date for the respective budget requests is too short, internal budget calls are issued about 4 months earlier through the comptroller channels.

provided to perform the mission; (2) the medium priority involving the items that would permit the mission to be performed at an improved level; and (3) the lowest priority including all other resources that would allow the RCs to perform the mission in the best possible way. The budget requests of all RCs are first analyzed and consolidated by the Base Budget Office who submits them to the FWG. The FWG attempts to reconcile all the parts and makes recommendations to the FMB for approval, adjustment, or redistribution of operating targets among RC. Then the FMB determines final priorities, approves the Base Operating Budget Request, and submits it to the respective MAJCOM. [Ref. 9: pp. 7-11]

Each MAJCOM, after receiving the budget requests from their subordinate units (AFB), consolidates them, prepares its own budget request, and sends it to the office of the AF Comptroller. Then the Directorate of Budget consolidates the MAJCOM budget requests and prepares a draft of the AF budget estimates, which is submitted to ASB. A series of reviews is then undertaken by the functional panels, the PRC, and the Budget Review Board (BRB) chaired by the Comptroller of the Air Force. During these reviews a top-down and bottom-up communication flow is established with MAJCOMs and AFBs whenever necessary. As a result, the final Budget Estimates Submissions (BESs) are prepared, approved by the CSAF and SECAF, and sent forward to OSD by 15 Sept 89. [Ref. 1: pp. 181-183]

Next the OSD Comptroller circulates the BESs among the appropriate OSD functional staff in order to prepare one separate Program Budget Decision (PBD) for each functional category of activities (appropriation). Then, as a result of an interactive review process among OSD, OMD, and Air Staff Board, the PBDs are finalized, approved, and signed by SECDEF in October 89. The signed PBDs are then distributed Air Force-wide until Base levels for appreciation and possible appeal. As a function of the feedback received, the Budget Review Board may present a reclama. A reclama is a fully documented and justified request for funding requirements that were neglected in the PBDs. If there is a reclama, the above process is repeated at OSD level. Then the final PBDs make up the complete AF Budget which is incorporated in the DOD Budget. This Budget goes to the Executive Office of the President, and finally, the President presents the overall Budget to Congress in January of the apportionment year. Throughout this process the budget and program changes are being introduced and the AF portion of the FYDP is being updated accordingly. Submission of the President's Budget to Congress concludes the budget formulation phase. [Ref. 1: pp. 181-183]

The justification and approval phase is developed at Congressional level from January through September 1990 and culminates in the seventh day after Labor Day when Congress completes action in bills and resolutions. This phase ends by the end of September when the appropriation bills are passed by the Congress and signed into Law by the President.

Three principal stages characterize the last part of the justification and approval phase: (1) Authorization, (2) Appropriation, and (3) Apportionment. Authorization is the Congressional legislative action that provides authority to purchase certain items after funds are made available. Appropriation is the Congressional legislative action which allows the Treasury Department to provide funding to the DOD. Appropriations are given by major functional category and subsidiary fund accounts, and can be multiyear (funds are made available for more than one year) or single year (funds are only made available for one fiscal year). Apportionment is the process of determining how much and when the different AF programs require obligation of funds that have been appropriated by Congress. Usually, funds are apportioned quarterly [Ref. 10: pp. 16-18]. The approval of these actions marks the transition between the budgeting phase and the execution phase.

#### *d. The Execution and Control Phase*

Execution involves the process of releasing approved funds to the field and their subsequent commitment, obligation and expenditure. Control is the process of analyzing data produced during execution in order to introduce feedforward and feedback inputs in all phases of the budgeting process on a permanent basis.

(1) *Budget Execution.* Although the budget execution starts with the approval of the apportionment request, some preliminary steps are developed within the AF. Thus, in March 90 the Comptroller of the AF issues a call for financial plans for the coming fiscal year. Then Base level and MAJCOMs determine their proposed financial plans which are sent forward. In July 90 an AF Financial Plan for the upcoming fiscal year is completed by the AF Comptroller. The plan is revised and adjusted to reflect Congressional changes, and is approved by the Operating Budget Committee. [Ref. 1: p. 185]

The funds are released to the field through the allocation and allotment processes. Allocation is the process by which Headquarters USAF (Comptroller) release funds to the MAJCOMs. Allotment is the process by which MAJCOMs release funds to their subordinate units. These actions are accomplished through the comptroller channels of the AF, and are made on a quarterly basis.

The funds are consumed through three types of actions: (1) commitment, (2) obligation, and (3) expenditure. Commitment is the process by which funds are reserved to cover estimated costs relative to something to be bought in the future. Obligation is the process of actually placing the funds on a contractual document, thereby authorizing expenditures or billing against this funds. Expenditure represents actual payments for the services or goods after delivered and received. [Ref. 10: pp. 18-19]

During the budget execution changes in concepts and policies may occur or entirely new developments may require a shift of emphasis in AF activities. Such changes must be accomplished within the total of the applicable appropriation or apportionment. This process through which high priority requirements are supported at the expense of lower priority items is called reprogramming. When this action is not sufficient to cover the new priorities, supplementals are then requested. [Ref. 7: p. 67]

Some of the programs are operated on an annual basis. But some others take several years to be accomplished, as the case of the production of an aircraft. In this situation Congressional appropriations are made available for obligations for periods up to three years. Existing balances at the end of each fiscal year are available to continue financing the program for future periods. The annual appropriations expire at the end of the fiscal year for new obligations; however, they are available for two more years in order to absorb possible adjustments in existing obligations [Ref. 8: p. 81]. In all cases transfers of funds from one appropriation to another can only be authorized by the Congress.

Most of the activities at Base level are carried out through the use of stock funds; that is, some materials are bought for the entire Base by supply centers which "sell" them to the users (RCs and CCs). An account for each "customer" is monitored by supply centers. Such an account is debited by the price of the materials requested and delivered if the existing balance is sufficient. Otherwise the requests are not fulfilled unless the user makes transfers from one (or more) of its accounts to that requiring funding.

(2) *Control.* The primary responsibility for budget execution, monitoring and review rests with program managers (Commanders at Base level). Monthly reviews of execution are made at Base level, and monthly financial reports on obligations and expenditures are sent up to the MAJCOMs. These financial reports assist MAJCOMs in monitoring the process of their Bases against approved programs.

The MAJCOMs send to the Headquarters of AF standardized financial reports which provide the capacity to select relevant information for preparing monthly flash reports. These reports are tracked, compared to the financial plan, analyzed, and deviations explained. Flash reports are also provided to OSD for comparison with the AF financial plan. Finally, a Report on Budget Execution has to be provided to OMB as the primary report providing current data on the status of each appropriation. [Ref. 7: pp. 67-73]

In addition, budget execution reviews are conducted quarterly by the MAJCOMs, and the results are reported to the AF Comptroller's Office. Significant variations between financial plans and actual obligations and expenditures may result in special reviews or audits. [Ref. 1: p. 186]

Financial management information for each level of management is provided primarily by computer reports which have been specifically tailored to meet local needs up to RC CC level. But the actual computerized MIS is based on punch cards and requires waiting overnight for retrieval results and performing intensive manual operations. To overcome this drawback the implementation of a new MIS, called Command Budget Automated System (CBAS), is scheduled to begin in early 1987. This new MIS is designed to streamline the budget process at Base level and eventually evolve into a complete budget network providing permanent communications with Base and Air Staff budget systems. The CBAS, based on the powerful Maintaining, Preparing, and Processing Executive Reports (MAPPER), will provide "real time" financial data. The working tools will be minicomputers primarily located in the Budget Offices. [Ref. 13: p. 1]

With the above description and analysis of the structure and workings of the FYDP, and the different phases of the budgeting process, an overall evaluation presented in the next section completes the study of the USAF budgeting process.

#### **D. EVALUATION OF THE BUDGETING PROCESS**

In order to meet most of the thesis objectives identified in Chapter I, some kind of evaluation about the way the budgeting process works had to be performed. The focus was given to the field (AFB level) through a questionnaire (see Appendix) sent to 52 AFB Comptrollers located inside the territory of the United States. Both descriptive and point scale questions were designed in order to cover a broad area of analysis.

About 50% of the AF Comptrollers were surveyed (52), and the 26 answers received constitute 50% of the AFBs surveyed and 25% of the total.

Without developing a formal statistical analysis, the answers for each question are taken as separate groups and examined together in order to identify the main trends and the principal thoughts. This approach is just one of several that could be used to perform an evaluation of the budgeting process. So the results should only be viewed as a set of comments, thoughts, opinions, and trends, rather than a meaningful and deep evaluation.

### **1. Degree of Application of PPBS and ZBBS**

Question 1: "To what degree do you consider that the PPBS (Planning, Programming, and Budgeting System) and the ZBBS (Zero Base Budgeting System), as budgeting theories, have been applied in the Air Force Budgeting Process?"

#### **a. PPBS**

In a five-point scale the answers were concentrated on points 1 (13 answers) and 2 (11 answers). The other 2 answers were point 3. In other words, 50% of the people consider that PPBS has been applied to a very high degree, and 42% to a high degree. The conclusion is that PPBS is extensively used in the USAF budgeting process.

#### **b. ZBBS**

Regarding ZBBS the situation is reversed. In fact, the answers were concentrated on positions 4 and 5 with 11 marks each. That is, 42% feel that ZBBS has been applied to a very low degree. The remaining 4 answers are spread on positions 1 through 3. Therefore, the conclusion is that ZBBS is used at a quite low degree. This conclusion agrees with what was indicated before (only some kind of decision packages and ranking process were suited and integrated in PPBS).

### **2. Bureaucratic Problems Related with PPBS and ZBBS**

Question 2: "Do you agree that the application of the PPBS and ZBBS to the Air Force Budgeting Process has increased bureaucratic problems and has constituted more a paperwork exercise?"

#### **a. PPBS**

Using again a five-point scale in question two, the answers are more spread along the scale, and there is a significant trend towards feeling that PPBS has not increased bureaucratic problems and has constituted much more than a paperwork exercise. In fact, 54% of the Comptrollers issued this opinion, and 19% were

indifferent (chose position 3 on the scale). The other 27% (7 answers) expressed the opposite point of view, agreeing that PPBS has increased bureaucratic problems and has constituted more of a paperwork exercise.

#### ***b. ZBBS***

The answers received revealed an opposite opinion about ZBBS. Actually, 69% of the people think that ZBBS has created more bureaucratic problems. Only 15% manifested a contrary opinion. 8% stated that since ZBBS is not applied any more, there was no applicable answer. The trend confirms what was referred to before about the huge amounts of paperwork created by ZBBS, forcing the abandonment of the system as a whole.

### **3. Helpfulness of PPBS Regarding the Decision-Making Process**

Question 3: "How helpful have these budgeting systems been, regarding the decision-making process?"

The third question involves both PPBS and ZBBS. However, since ZBBS is not generally being used, the answers are assumed to be related only to PPBS. The question was split into two parts: (1) relative to the organizations and entities outside the AF, and (2) within the AF.

#### ***a. At Governmental and Congressional Level***

Over a five-point scale, 69% of the people think that the actual budgeting system is helpful for the decision-making process at SECAF, DOD, OMB, and Congress levels. Only three answers (12%) consider PPBS not helpful and 15% are neutral (4 answers).

#### ***b. At Air Force Level***

The results are a bit different from those shown in the preceding item. As a matter of fact, the number of Comptrollers feeling that PPBS is useful to the decision-making process at different levels of the AF is less than in the prior situation. However, the majority answered in a positive way (54%) although the number of neutral (8) is duplicated, and the negative answers (4) have shown a light increase (one more).

Overall, the final conclusion is that PPBS is helpful for the decision-making process, at all levels of management (inside and outside the AF).

### **4. Influence of Top Management Style**

Question 4: "Do you think that the management style at top levels (DOD, Secretary of the Air Force, Air Force Chief of Staff) has produced meaningful influence and change on the Budgeting Process? Please explain briefly."

It seems that the fourth question was not well understood, because some answers focused on the actions and steps taken by top levels according to what is established on PPBS. Such actions and steps are required by law, so the management style cannot change them. But it can influence the way and the timing of those actions and steps. Therefore, despite the fact that 12 Comptrollers have said "yes" and 11 have said "no", there is not any contradiction. They simply responded to different questions.

The justifications given in the positive answers are based on scientific management theories which recognize that management style always influence the way the things are done at subordinate levels. The goals, objectives, plans, guidance and individual influence of top managers flow through the system and have a direct or indirect effect on all who are involved with the budgeting process.

People who answered negatively argue that top level managers are so far from the field that they really do not know what is attempted to be accomplished at Base level. However, these answers recognize that at Base level the wing Commander interest and involvement has a meaningful influence on the budgeting process.

In short, it can be concluded that the management style is an important factor producing direct and indirect effects on the budgeting process at subordinate levels.

#### **5. Involvement and Support by Top Management**

Question 5: "How would you rate the degree of involvement and support given by top management (within the Air Force) to the following phases of the Budgeting Process?"

In order to evaluate the degree of involvement and support given by top management within the AF, a five-point scale was applied to this question which was split in three parts related to the phases of PPBS.

##### ***a. In the Planning and Programming Phase***

About three-fourths of the answers (9 marked position 1 and 10 position 2) consider such involvement and support very high (35%) or high (38%). Only 2 answers (8%) rated it as low, and no one thinks that it is very low.

##### ***b. In the Budgeting Phase***

The results are quite similar to those of the preceding item. In fact, again about three fourths of the answers rate the degree of support and involvement given by top management as very high (38%) or high (35%), and only one Comptroller disagreed with this position.



***c. In the Execution, Control and Reevaluation Phase***

Although the results here are less expressive, the majority of the Comptrollers (58%) still think that the degree of involvement and support is very high (23%) or high (35%). Five answers (19%) consider it low and the other five are neutral.

The final conclusion is that AF top management gives sufficient support and cares about the budgeting process in all its phases.

**6. People Involved in the Budgeting Process**

Question 6: "Do you think that people involved in the Budgeting Process (at your level) are satisfied and motivated, and comprehend the different phases of the process and the goals to be achieved? Could you please explain your thoughts about this issue?"

Answers to the sixth question (using a five-point scale with justification) are unanimous in considering that at Base level very little planning and programming is done. The principal concern is with the budgeting and execution phases. So these people have very little knowledge of the planning and programming phases.

Regarding the budgeting and execution phases, 69% of the Comptrollers are convinced that people involved are satisfied and motivated and understand well their job. In 26 answers, 4 (15%) disagree with this statement, and only 1 strongly disagrees. These negative answers argue that too many senior offices still believe in the unlimited availability of dollars, and the detailed programming is often forgotten during the execution phase.

All in all, it can be concluded that people who work with the budgeting process at Base level are quite familiar with the system, understand well what is necessary to be done, and enjoy their job and their work.

**7. The Control Function**

Questions seven and eight asked for descriptive answers about the role and impact of the control function as an integral part of the budgeting system. In question seven the focus is on the effectiveness of the feedback process based on the recurring outputs from the budget execution, namely financial reports. In question eight the emphasis is on the final result of the budget execution, the variance analysis and its effect on the different phases of the budgeting process. Each of these questions are treated separately.

#### ***a. The Feedback Process***

Question 7: "Explain briefly how the feedback process (i.e. financial reports) has worked , and how effective it has been, namely in the execution, control and reevaluation phases."

Eleven Comptrollers (42%) did not answer this question or their answers were vague and ambiguous. Eleven other feel that the feedback process has worked well and with effectiveness when received timely. The remaining four (15%) expressed an opposite opinion. Most of the answers consider the degree of effectiveness and usefulness of the reports decreases as a function of their delay. The feedback process works well if managers can get a timely product. Otherwise the financial reports may have not been worth the paper that were printed on.

The positive answers indicate that the feedback process, working by comparing actual expenses to budget targets, allows for reevaluation and for detection and solution of budgeting and accounting problems. Along with the telephone conversation method, financial reports are the basis of the feedback process and form a useful tool to monitor the budget execution. Actually, resource advisors constantly monitor their funding programs through review of various reports; the Base Budget Office does this too and collect data for developing future budget estimates; and FWG and FMB review the status of all financial programs at least quarterly. On the other hand, the Base financial reports are sent to MAJCOMs, consolidated at this level, and presented at higher levels with a good picture of how and where the moneys are being spent. Therefore, the feedback process holds managers accountable for proper application of the funds provided.

In summary, it can be concluded that the feedback process works effectively whenever the financial reports are provided on a timely basis.

#### ***b. Final Reporting and Variance Analysis***

Question 8: "Is any final comparison performed between the real expenditures disbursed and the values included in the budget? \_\_\_\_\_. If your answer is yes, what is the impact of the results of the variance analysis on the different phases of the budgeting cycle? Explain briefly."

This is a "yes/no" question with justification for the positive answers. Its purpose is to evaluate the effect of the variance analysis (if done) on the upcoming phases of the budgeting process. 50% of the Comptrollers answered "yes", 35% said "no", and 15% did not answer or did not define their position.

The positive answers indicate that the impact of the variance analysis is very little on the planning and programming phases, but is important on the budgeting phase. In fact, it allows operating managers to reevaluate program requirements and costs. The variances are reviewed to determine if it is a one time occurrence or a continuous problem. In this case the causes are looked for and the findings are considered in preparing the upcoming budgets and financial plans. In addition, the results of variance analysis highlight potential training needs for evaluating costing mission requirements both for the functional managers and budget staff. Some of the negative answers indicate that since the budget process is very dynamic, it is doubtful that such comparison would be beneficial.

It is difficult to understand why some Comptrollers answered "yes" and others "no". Perhaps the reason is some misunderstanding of the question. Therefore, it is not possible to reach a final conclusion. However, it is felt that a formal and overall final comparison between the actual expenditures and the budgets is not performed; but at Base level and perhaps at MAJCOM level some partial comparison and variance analysis take place. It seems that the control function is not fully applied.

#### **8. Interdependence Between Plans and Programs, and Budgets**

Question 9: "In the PPBS theory the plans and programs drive the budget. Do you think that this happens in practice? Or does the budget drive the plans and programs?"

The ninth question, based on a five-point scale, was designed in order to know if in practice the plans and programs drive the budget or, conversely, the budget determines the plans and programs. The answers are a little bit spread along the scale. 46% of the Comptrollers feel that the budget is driven by the plans and programs, while 31% manifest the opposite opinion, and 23% are neutral.

A couple of answers included in the second group explain that planners could always plan for more but the budgeteers have to adjust the plans to the financial constraints. This is true but it does not mean that the plans and programs are developed as a function of the budget. They were generated first, independently of the budget formulated and approved later on.

It can be concluded that the plans and programs drive the budget, in theory and in practice as well.

## **9. Criteria to Allocate Common Costs**

Question 10: "What criteria are more extensively used to allocate common costs to the different responsibility centers or cost centers? How are such criteria applied? Explain briefly please."

This question asked for descriptive answers about the criteria used to allocate common costs to RCs/CCs. As stated in the answers received, and clarified by the Budget Officer of Travis AFB, common costs are treated by different processes as a function of their nature. Thus, costs with military wages and food are centralized and managed at Air Staff level where standard rates are calculated (e.g., how much a captain costs per hour). Costs with civil personnel are managed at RC/CC level and are allocated through the job order costing process; they constitute about 70%-80% of the total budget managed at Base level.

Fuel and lubricants for aircrafts are centralized and managed at MAJCOM level where these costs are allocated to squadrons (RCs) as a function of flying hours. Utilities and communications expenses are charged to assigned codes and are not allocated to the different RCs/CCs; specific cost centers are responsible for all these costs (e.g., the civil engineer for utilities). Other costs, like consumables and fuel and lubricants for vehicles, are managed by Base supply centers acting as stock funds; that is, costs are inputted to users as far as users "buy" the goods.

## **10. Evaluation of the MIS**

Question 11: "How effective have the application and utilization of a computerized MIS (Management Information System) been in all phases of the Budgeting Process? Could you please outline some of its strengths and weaknesses?"

The eleventh question asked for the rating of the effectiveness of the MIS used in the budgeting process, and asked for some of its strengths and weaknesses. 42% of the Comptrollers rated MIS as very effective(15%) or effective (27%), while only 12% considered it non-effective. Seven answers (27%) are neutral and five Comptrollers (19%) did not answer.

Relative to the second part of the question, the main strengths and weaknesses outlined are:

### ***a. Strengths:***

- Eliminates numerous handwritten products and does work with more accuracy, allowing the analyst more time to evaluate programs and systems with greater depth.
- The data put into the system is easily inputted to the different elements of the FYDP.

- More detailed arrays of accurate data are available for management.
- Allows flash reports to be sent to MAJCOMs more quickly.
- Allows messages to be sent to other Bases for needed information.
- Easy access to historical data.

***b. Weaknesses:***

- Some long delays in obtaining necessary data make information not useful for evaluation.
- Too dependent when electricity, software or hardware are not working. The system breaks down a lot.
- Only as good as the data put into the system (garbage in-garbage out).
- Too many tasks are still manual because of the drawbacks of the system (delays, failures, lack of capacity, etc.).
- Reports are not easily readable requiring subsequent preparation for management information.
- Reports reflect only costs expenditures. The information is not tied into output versus costs.

In summary, the effectiveness of the system needs to be improved significantly. Some of the weaknesses need to be resolved, while the strengths can be intensified. As referred to in the preceding section, a new MIS is planned to be implemented in 1987 which is expected to solve the actual problems and to respond effectively to all management needs.

# **11. The Role of the Air Force Wide Mission Area Analysis (AFWMAA)**

Question 12: "Briefly state your opinion about the role and importance of the AFWMAA (Air Force Wide Mission Area Analysis) as a tool in the planning, programming and budgeting phases."

This question was designed to evaluate the role and importance of the AFWMAA as a tool in the budgeting process. It was unanimously answered that such a model is not used at Base level. In fact, this tool is only applied at Air Staff level in the functional panels, during the POM development process.

The AFWMAA is a macro-systems analysis model used to measure USAF combat capability in four mission areas: (1) strategic offense, (2) strategic defense, (3) force projection, and (4) theatre warfare. The model compares friendly and enemy forces, assesses contributions of individual programs, identifies checkpoints and limitations in the system, avoids duplication and overlaps, and prioritize needs. It is used to add, continue, modify or delete programs. It is a logical process and its emphasis is on the total system. It looks at both forces structure and the support functions necessary to produce real combat capability. [Ref. 12: p. 33]

Despite the impossibility of obtaining the opinion of the Base Comptrollers, it seems that the AFWMAA is a useful tool for the programming phase.

## **12. Rating the Budgeting Process**

Question 13: "Overall, and looking at the future, how do you rate the actual Air Force Budgeting Process?"

The thirteenth question used a five-point scale to rate the overall budgeting process in a perspective of the future. Two answers (8%) rate it as outstanding, 57% (15 answers) as good (point 2 on scale), while only one is negative (position 4 on scale); the remaining 8 answers (31%) are neutral (point 3 on scale).

Therefore, the conclusion is that the actual AF budgeting process is a good system and is able to respond effectively to future needs.

## **13. Expenses Versus Expenditures**

Question 14: "Do you think that it would be feasible and worthwhile to develop an accounting system established on an expense basis (the effective use and consumption of the goods) rather than on an expenditure basis (disbursements by the costs of acquiring the goods)? Please outline your thoughts about this issue."

The last question asked for the possible net benefits of implementing a record costing system established on an expense basis in substitution of the actual system based on the real expenditures made. Both a five-point scale and a descriptive method were used.

The answers are quite spread along the scale with the median (31%) located on the neutral position (point 3). Only 16% of the Comptrollers think that it would be feasible and worthwhile to develop and implement an expense basis system, while 42% have a contrary opinion; the remaining three Comptrollers (11%) did not answer. Some of the reasons on which the comptrollers based their answers are outlined below.

### ***a. In Favor of the Expenses Basis System:***

- The system would more closely correlate the AF budget and accounting process to the accepted standards of industry, and would more accurately reflect the real cost of operating each AF unit.
- This system would help managers to know the real cost of the output which is not accurately ascertained with the current accounting system.
- Many organizations spend money on items that are not necessary; with this system, tracking expenses on actual needs efficiency would be improved.

### ***b. In Favor of the Expenditure Basis System:***

- "Effective use" is nebulous, difficult to measure and forecast, and much too subjective to be developed into the PPBS. At least "disbursement" is objective and generally understood by all.

- The proposed system has been tested. However, the costs overwhelmed the benefits as the AF has neither a profit motive nor "revenues" to record on an accrual basis.
- The change would not do much for the operational productivity; it would only satisfy accountants.
- National defense is often unquantifiable in terms of "effective use".
- The actual system works well. Why create more paperwork?

As showed above, the proposed system has advantages and disadvantages. Only through a complete cost benefit analysis could a final conclusion be established.

#### 14. Summary

In the preceding subsections the principal and more meaningful results of the answers given by 26 AFB Comptrollers were analyzed and some conclusions were outlined. The five-point scale answers are synthesized in Figure 3.4. The global results and conclusions, summarized below, constitute an overall evaluation of the USAF budgeting process.

PPBS has been extensively used in the USAF budgeting process without significant increase of bureaucracy and paperwork, and has been helpful for the decision-making process at all levels. On the contrary, since ZBBS created huge amounts of paperwork with no visible benefits, it was practically abandoned.

Management style and engagement are important factors which produce direct and indirect effects on the budgeting process at subordinate levels. AF top management is concerned with the budgeting process in all its phases, and gives sufficient support to people involved. These people, at Base level, are very familiar with the system, comprehend what is to be done, and are satisfied with their job and their work.

It seems that the control function does not work effectively since (1) the feedback process needs improvement, and (2) an overall final comparison of actual expenditures against budgets is not performed. These budgets are formulated as a function of the plans and programs developed first. Budget formulation, execution and evaluation use an obsolete MIS which needs to be replaced.

The degree of performance of the programming phase is improved at Air Staff level using a computerized macro model called AFWMAA. The budgeting and execution phases may be improved through the implementation of a new costing system based on expenses incurred rather than on expenditures paid. However, an overall cost benefit analysis should be made in order to determine if it is worthwhile to develop and introduce such a system.

Question Number	Yardstick	S C A L E					No Answer
		1	2	3	4	5	
1.a.	Answers	13	11	2	-	-	-
	Percent.	50%	42%	8%	-	-	-
1.b.	Answers	1	2	1	11	11	-
	Percent.	4%	8%	4%	42%	42%	-
2.a.	Answers	4	3	5	11	3	-
	Percent.	15%	12%	19%	42%	12%	-
2.b.	Answers	11	7	2	3	1	2
	Percent.	42%	27%	8%	11%	4%	8%
3.a.	Answers	6	12	4	3	-	1
	Percent.	23%	46%	15%	12%	-	4%
3.b.	Answers	5	9	8	4	-	-
	Percent.	19%	35%	31%	15%	-	-
5.a.	Answers	9	10	4	2	-	1
	Percent.	35%	38%	15%	8%	-	4%
5.b.	Answers	10	9	5	1	-	1
	Percent.	38%	35%	19%	4%	-	4%
5.c.	Answers	6	9	5	5	-	1
	Percent.	23%	35%	19%	19%	-	4%
6.	Answers	6	12	4	3	1	-
	Percent.	23%	46%	15%	12%	4%	-
9.	Answers	4	8	6	6	2	-
	Percent.	15%	31%	23%	23%	8%-	-
11.	Answers	4	7	7	3	-	5
	Percent.	15%	27%	27%	12%	-	19%
13.	Answers	2	15	8	1	-	-
	Percent.	8%	57%	31%	4%	-	-
14.	Answers	2	2	8	5	6	3
	Percent.	8%	8%	31%	19%	23%	11%

Figure 3.4 Summary of the Answers to the Five-point Scale Questions.



All in all, the AFB Comptrollers consider the actual budgeting process a good system with potential capabilities to respond effectively to future management needs.

This summary of the evaluation of the USAF budgeting process finalizes the subject of this chapter. A similar description, analysis, and evaluation of the PAF budgeting process is developed in the following chapter.

## **IV. ANALYSIS OF THE BUDGETING PROCESS IN THE PAF**

### **A. HISTORICAL REVIEW**

As was done in the preceding chapter, this chapter starts with the presentation of an historical review about the budgeting process used by the PAF since its existence as an independent branch of the Armed Forces, in 1952. Only one budgeting system was followed, based upon the classic principles of public administration. The budget for each year was organized by the traditional line items expenditures, showing the amounts budgeted for the current year and estimated for the budget year. Justifications about the differences were required. Even if there was not any difference at all, complete justification was to be made for some line items.

Expenditures were classified in three main groups: (1) personnel, (2) material, and (3) expenditures with services rendered by third parties and others not specified. Within these three groups, expenditures were divided and classified by line items according to their nature and characteristics.

Planning and programming were almost nonexistent. In the budgeting formulation the amounts for each item were calculated on a basis of an incremental addition relative to the preceding year. These incremental additions were based on the inflation rate, or on any other factors which had to be explained for each case.

During the budget execution, monthly reports were organized in each Air Force Base or equivalent unit (Base Units). These reports showed expenditures accumulated up to the end of the month, compared them with the available budget until that month (total divided by 12, times the number of months passed), and the differences calculated. Since these reports were provided with substantial delay (several months), their utility was quite limited, and timely corrections could not be made. So, control and feedback were very poor and practically nonexistent.

This budgeting system was used until 1981, when the PAF underwent a deep restructuration. New management needs were then created for which the old system was not able to give the appropriate answers.

### **B. ORGANIZATIONAL STRUCTURE OF THE PAF**

Before going through the actual budgeting system, it is useful to present the organizational structure of the PAF. Although shown in a rough draft and in a

summarized manner, the organization chart exhibited in Figure 4.1 will provide a better understanding of the interactions inherent in the actual budgeting process.

Base Units (BUs) work as responsibility centers and are organized in sub-units which can be identified as cost centers. The squadron is a typical sub-unit. The Directorates in the Logistics Command (CLAFA) are also organized in sub-units, and provide complete support to all units of the Operational and Personnel Commands, and to Air Force Staff as well.

## **C. DESCRIPTION OF THE ACTUAL BUDGETING SYSTEM**

### **1. Introduction**

As was said in the first section of this chapter, the old budgeting system was not able to provide timely responses to the increased needs. These risen needs were not only created by the new structure of the Air Force but from a shortage of available resources and increased justification requirements by the Government and Parliament as well. The new budgeting system was expected to be able to give meaningful answers to those needs. The principal needs were identified as:

- a. Provide full and relevant information to justify the budget proposals, based on the objectives to be reached rather than the inputs.
- b. Answer all kinds of questions and doubts made by the Government and the Parliament.
- c. Strengthen the arguments and justifications presented during the meetings and discussions with the other services.

### **2. The Budget by Programs**

In order to respond with effectiveness to the questions described in the preceding point, a new budget system was created and implemented in 1981. This system was based upon the experience of other countries (US PPBS, Canadian PPBS, and the French system "La Rationalization des Choix Budgetaires"). As mentioned in the Budget by Programs for 1985 [Ref. 14: pp. 4-5] (which constitutes the basis of this subsection), the actual budgeting process is structured in a multiple directional informative model. This model is to provide management in general and decision-makers in particular an accurate, meaningful and overall knowledge of all the factors related to the scientific management of an organization.

The main goals to be achieved with the actual budget system are:

- a. Ensure an optimized use of the available resources through the development of an adequate planning, programming, and budgeting process.
- b. Provide an analytical level of information, as discriminated as possible, about different areas other than line items expenditures, such as programs, program elements, responsibility centers, cost centers, etc.

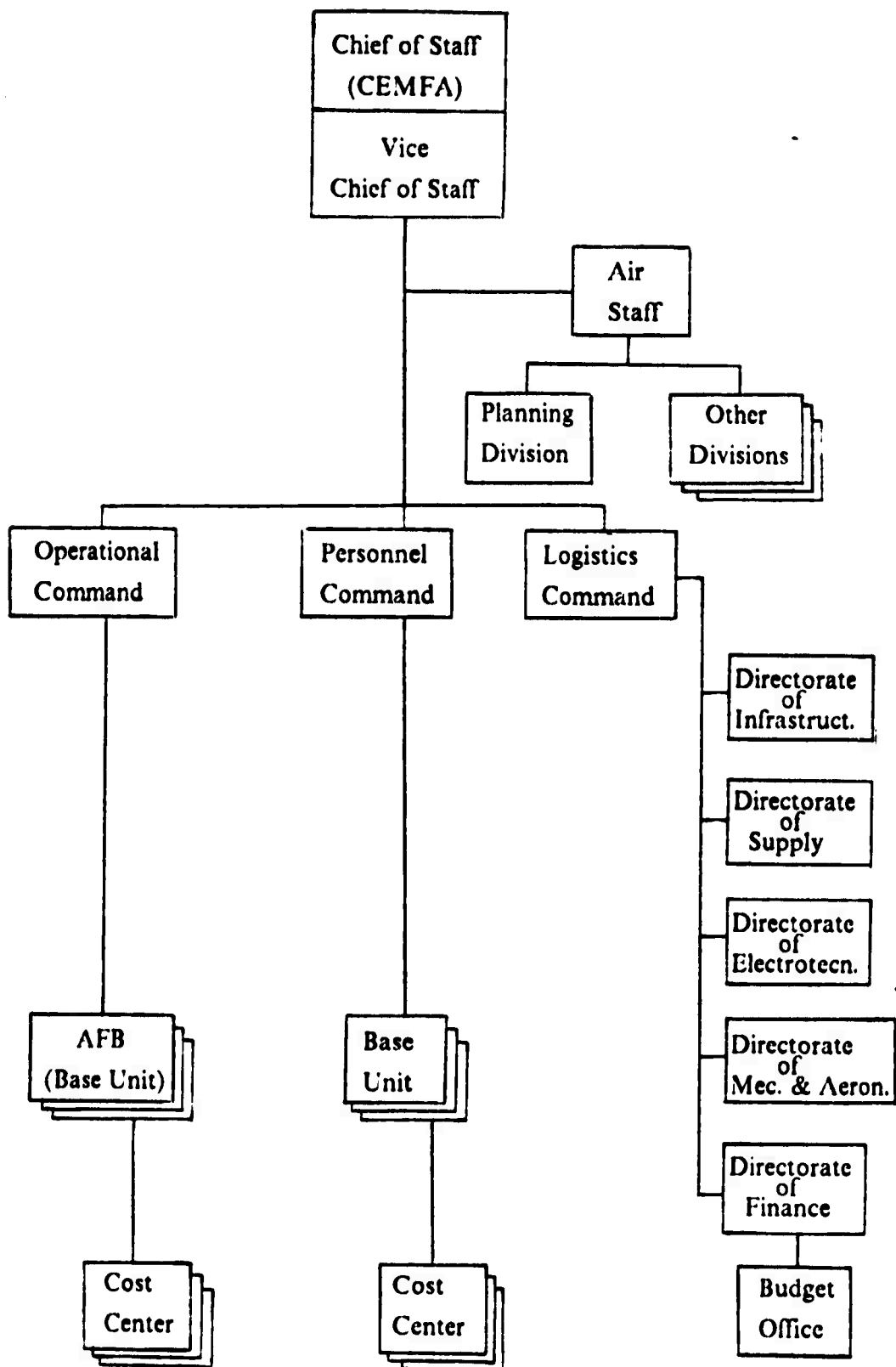


Figure 4.1 Draft of the Organization Chart (simplified) of the PAF.

- c. Produce a budget as flexible as possible, permitting its rearrangement and reformulation in an easy and quick manner, whenever imposed by the circumstances.
- d. Provide an efficient and timely control and an effective use of the feedback and feedforward process relative to the current budget execution and towards the different budgeting phases of the upcoming years as well.
- e. Constitute an historical record of statistical data in order to provide support to the budgeting process for the following years.
- f. Achieve a high degree of standardization with respect to processes, practices, and communications to be used by the responsible people involved in the budgeting process at all levels of management.

The Budget by Programs is the natural and final outcome of the actual budgeting system. The structure of the Budget by Programs, shown in Figure 4.2, is composed of:

- a. Main programs.
- b. Program elements.
- c. Line items and sub line items.
- d. Classes and categories of costs.
- e. Other indicators.

A general description of these elements is presented below.

**a. Main Programs**

A main program is a set of multiple functional activities and operations performed in an interactive and coordinative manner in order to achieve a given objective or a set of related objectives. Seven main programs and eight sub-programs are defined, as indicated below.

(1) *Program 10 - Command, Control and Communications.* This program includes all activities developed at all levels related with Command, Control and Communications, namely: (1) vigilance and defense of the national air space; (2) cooperation with the Army and Navy; (3) fulfillment of the requirements derived from the international agreements; and (4) contribution to the national economic development.

(2) *Program 20 - Air Units.* This includes all units and their means primarily involved with air activities and operations. This program is divided in five sub-programs:

1. Sub-program 21 - Air defense units.
2. Sub-program 22 - Air tactical units.
3. Sub-program 23 - Air units of maritime patrol, anti-submarine warfare, and search and rescue.
4. Sub-program 24 - Airborne units.

## BUILDING BLOCK CONCEPT

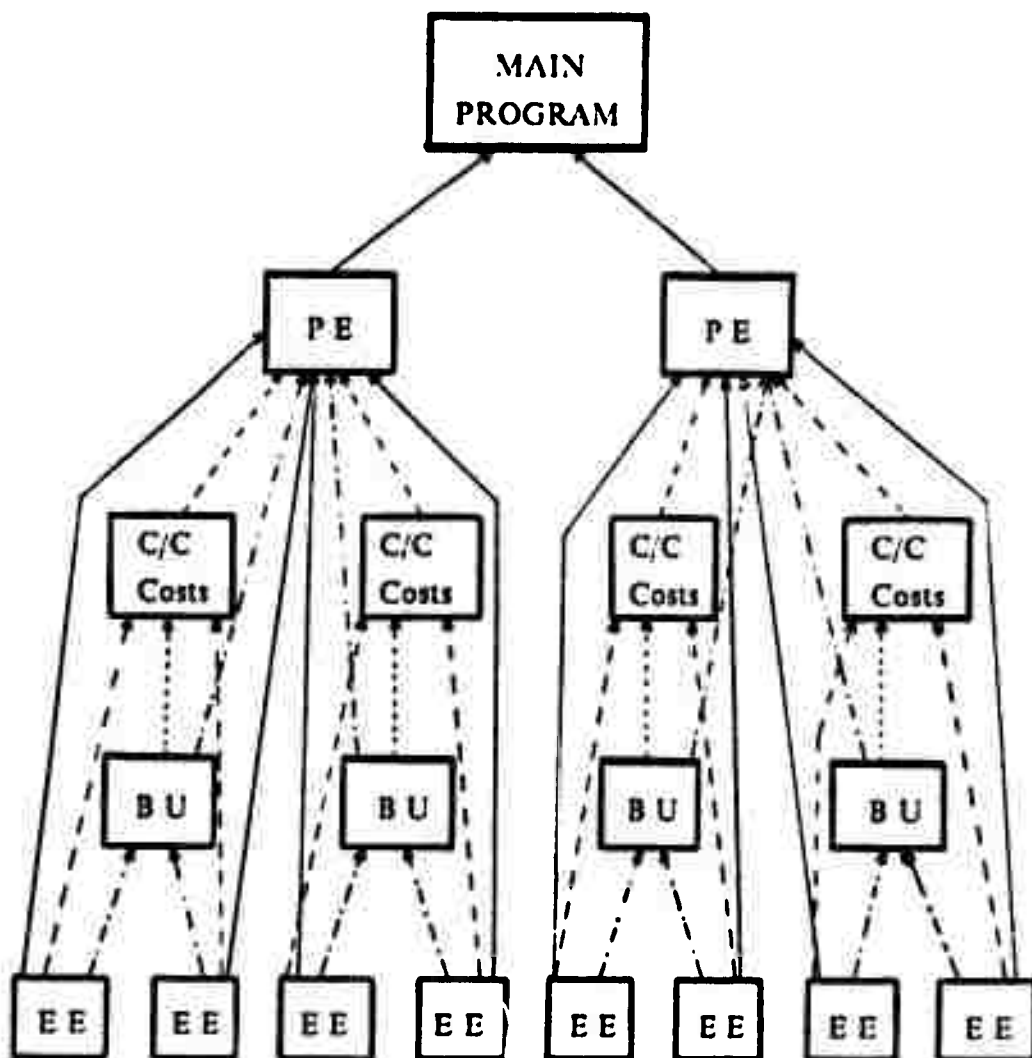


Figure 4.2 Structure of the Budget by Programs.

5. Sub-program 25 - Air training units.

(3) *Program 30 - Security.* This is comprised of the mission and activities developed by the Air Force Police in order to ensure the security and defense of the human, material, equipment, and infrastructure means, and maintain a high level degree of discipline.

(4) *Program 40 - Parachutists.* This program encompasses all activities and operations and respective means of the parachutist troops which are assigned to the AF.

(5) *Program 50 - Instruction.* This involves all activities associated with selection, recruiting, training and development of personnel, exempting air training.

(6) *Program 60 - Support.* This program includes the costs of all activities and services rendered by several support units whenever these costs cannot be directly allocated to the other specific programs. This is divided into two sub-programs: (1) sub-program 61 - Material support, involving the costs of maintenance, utilities, consumables, transportation and miscellaneous services; and (2) Sub-program 62 - Personnel support, encompassing the costs of activities developed in benefit and support of personnel, such as health care, pay, and feeding.

(7) *Program 70 - Administration.* This includes the cost of management activities developed at all levels; that is, the costs of the units whose mission is to provide leadership, management, and staff at different levels of hierarchy.

#### ***b. Program Elements***

A PE is a part of a program or sub-program. It represents a portion of the total effort developed in a program, including a set of related activities generally performed by a sub-unit. This sub-unit can be viewed as a responsibility center or a cost center. PEs are the means by which the costs are inputted to the programs and to the Base Units (responsibility centers).

There are 209 PEs. Some of them have special characteristics that they do not correspond to any sub-unit. These PEs, called non-specific, were created for activities and operations that are common to more than one Base Unit.

#### ***c. Line Items and Sub-line Items***

Line items correspond to the traditional budget classification by elements of expense according to the cost nature. This classification is still required by public accounting laws, and represents the way by which the budget proposals have to be submitted to the Government and Parliament.

Sub-line items are divisions of the line items. Each element of expense is divided into several sub-line items. Some sub-line items are further subdivided into sub-line items of subordinated level. Therefore, a meticulous detail is ensured (theoretically).

#### ***d. Classes and Categories of Costs***

The cost structure is defined in order to accomplish two main purposes: (1) aggregate expenditures by programs, PEs, and responsibility centers, and (2) establish a biunivocal relationship between the costs classified in the different elements of the

Budget by Programs and into the traditional line items structure. A biunivocal relationship is established between the categories of costs and the sub-line items. The costs are classified into five classes of costs which are divided into 14 categories of costs. The classes of costs are:

1. Wages, salaries and pensions.
2. Current activities, including personnel support, feeding, consumables, utilities, and nonspecified services.
3. Operational activities, involving petrol, oil and lubricants for operational purposes, material maintenance, and ammunitions.
4. Procurement.
5. Infrastructures.

*e. Other Indicators*

Other relevant indicators for management are considered whenever they can be identified and measured in an easy and costless manner. These indicators can vary according to the characteristics of each program. Generally, they include personnel resources, weapon systems, groups of some equipment (e.g. vehicles, production equipment and support equipment) and infrastructures. Payments in foreign currency is an important indicator because a great part of weapon systems, equipment, and spare parts are purchased abroad. Therefore, it is necessary to evaluate the weight of such expenditures in the balance of payments.

*f. Budget Format*

As a result (in part) of the combination and interrelationship among the elements described above, the Budget by Programs is organized in a format that shows:

- a. Definition of the global objectives and the main purposes to be achieved by each program.
- b. Personnel (officers, sergeants, soldiers and civilians) distributed by programs.
- c. Amounts appropriated by programs and by classes of costs.
- d. Appropriations of each program distributed by responsibility centers and by classes of costs.
- e. Appropriations of each program distributed by program elements and by classes of costs.
- f. Distribution of the total cost of each responsibility center by the different programs.
- g. Discrimination of several indicators by each program, namely the means required (in personnel and material), made in a comparative way with prior years.

As indicated before, the categories of costs are biunivocally related to the sub-line items. This fact makes possible the formulation, development, and execution



of the budgets under the two systems (traditional budget and the Budget by Programs) simultaneously.

### **3. Phases of the Budgeting Process**

This subsection analyzes how the different phases of the budgeting process are designed and how they interrelate. Since the actual budgeting system was developed and implemented by the PAF itself, all the activities relative to the planning and programming phases take place within its structure. The budgeting and execution phases extend through the Government and Parliament levels as a result of the traditional budgeting system.

#### ***a The Planning Phase***

This discussion is essentially based on MFA 300-2 [Ref. 15], a manual about integrated planning issued by the Planning Division of the AF Staff.

As a function of the threat analysis and the international defense agreements (especially NATO), the Government (Ministry of Defense) establishes the Strategic Concept of National Defense. Based on this concept the Armed Forces Headquarters (EMGFA) defines the Military Strategic Concept which leads to the development of the Defense Plan. Naturally, the AF planning must meet the objectives identified in the Defense Plan as an integral part of it.

The AF planning process is developed at Headquarters level (Planning Division of the AF Staff) and involves the three functional MAJCOMs, the different divisions of the AF Staff, and the Chief of Staff of the Air Force. The Planning Division is responsible for leading and conducting this process.

The planning process is integrated, interactive, cyclical and dynamic. It is integrated because it requires a coordinative action among independent levels of management at the three functional areas (operational, personnel, and logistics). It is interactive since each level of management creates and develops its own plan which is sent to the upper level as its share for the overall plan. Lower level plans are developed through top-down and bottom-up communication flows in order to achieve an outcome that better fits with the overall plan. It is cyclical to the extent that the results of the execution phase constitute (through the feedback process) new inputs for the upcoming planning, programming, and budgeting phases. This process may lead to some degree of reformulation in one or more objectives or to the establishment of new objectives. It is dynamic because the identification of abnormal deviations determines the implementation of the most appropriate and timely corrective actions.

The planning process is classified into three levels [Ref. 15: p. 3-3]:

1. Mid term plan, with an eight year horizon. This plan is not implemented yet.
2. Short term plan, with a three year horizon.
3. Very short term plan, with a one year horizon.

The planning system is developed into three management levels [Ref. 15: p. 3-3]:

1. Top level (Headquarters level), responsible for the overall plan.
2. Mid level (MAJCOM level), with one plan for each functional area: (1) plan of the Operational Command; (2) plan of the Logistics Command; and (3) plan of the Personnel Command.
3. Lower level (BU level), with one plan for each responsibility center.

The overall plan of the Air Force is the result of the integration and consolidation of all these three-level plans.

As shown in Figure 4.3, for the fiscal cycle starting January 1, 1989, the formulation and development of the short term plans are carried out through three principal steps. First, by 10 Jan 1987 the Preliminary Planning Directive (DPP) is prepared and approved by the CEMFA. This directive is defined by the Planning Division as a result of coordinative actions with the other divisions of the AF Staff and the MAJCOMs. After approval the directive is immediately sent to MAJCOMs, as a planning call. Second, the MAJCOMs prepare draft plans, after receiving the comments and suggestions of the respective BUs. These three-year plans contain an estimate of the resources required to achieve the proposed objectives. By May 10, these plans are sent to the Planning Division. Third, the Planning Division revises, adjusts, and consolidates the three functional plans, in a cooperative manner with the MAJCOMs, and prepares the overall plan for submission to CEMFA's approval no later than 30 Jun 1987.

As a result of the passage of time, the plans are going to be subjected to revisions and adjustments. By the end of each fiscal year formal adjustments and changes are introduced by the Planning Division. By 1 March, the MAJCOMs prepare reports covering the plan execution during the preceding year and send them to the Planning Division as a feedback process. Based on all available information, a new three-year plan is developed each year, revising the first two years and adding one more planning year.

<b>Date</b>	<b>ACTION</b>	<b>Respons. Entity</b>
10 Jan 87	Issue Planning Directive for 1989-1991	Planning Division
1 Mar 87	Feedback from 1986 Planning Execution	MAJCOM
10 May 87	Draft Plans Sent to Planning Division	MAJCOM
30 Jun 87	Submit 1989-91 Plans to CEMFA's Approval	Planning Division
31 Dec 87	Three-Year Plans Revised & Adjusted	Planning Division
Feb 88	Issue Progr. & Budget. Directive for 1989	CLAFA
31 Mar 88	Program Inputs Sent to Directorates	BU's
15 May 88	Prog. & Budg. Proposals Sent to Budget Office	Directorates
15 May 88	Base Units' Budg. Prop. Sent to Budget Office	BU's
Jun 88	Prepare AF Budget Proposal	Budget Office
Jun 88	Submit Budget Prop. to CEMFA's Approval	CLAFA
30 Jun 88	AF Budget Proposal Sent to Government	Direct. Finance
15 Oct 88	Budget Proposal Presented to Parliament	Minist. Finance
Oct 88	First Review of Budget by Programs	CLAFA
15 Dec 88	Final Budget Approval	Parliament
Dec 88	Final Review of Budget by Programs	Budget Office
1 Jan 89	Fiscal Year 1989 Starts	

**Figure 4.3 Planning, Programming, and Budgeting Schedule  
for Fiscal Year 1989.**

### ***b. The Programming Phase***

This discussion is based on the Budget by Programs [Ref. 14] again, and on the Instructions for the Budgeting Process [Ref. 16]. The programming process refers basically to the very short term, that is the upcoming year, except for the activities and projects that are performed and completed within a period of more than one fiscal year. For these cases, multiple year budget estimates are approved by the Government and Parliament on an individual basis. The bill establishes the maximum amount to spend in each fiscal year. Existing balances at the end of the year, if any, can be utilized in future years.

The set of programs was established as a function of the unquestionable missions of the Air Force, and consideration of its functional structure. A manager is appointed for each program who is responsible for the analysis and review of the proposed objectives, the resource allocation, and execution of the program. Moreover, he should have the capacity to coordinate his action with the actions of other program managers. In each program the means (human, material and financial) involved are described in such a way that their analysis allows a determination of not only the cost of the program but the cost of any organizational sector or responsibility center as well.

Other than the required quantitative information, each program contains a description of:

- a. Brief justification of its importance towards the final mission of the AF.
- b. Objectives to be accomplished.
- c. Means and resources available for the achievement of the stated objectives.
- d. Overall reference to the main activities and perspectives comparing them with the preceding year.

Since the period subjected to the programming process coincides with the budgeting period, the directives and instructions for these two phases are issued jointly in the same documents. As indicated in Figure 4.3, the programming process starts in February of the current year with the issue of a general programming and budgeting directive which is based on the existing three-year plan revised two months before. It contains the policies and main guidelines of the programs and budget for the next year. This directive is sent by the CLAFa to all responsibility centers as a programming and budgeting call.

At BU level the means and resources to achieve their specific objectives are identified. Except for the basic maintenance and operation activities, those requested means and resources are communicated to the different Directorates of the Logistics Command. Then the Directorates along with the program managers develop all the programming work. The means and resources requested are analyzed, compared, and reevaluated. Various alternatives are considered and evaluated, identifying their major advantages and disadvantages. A systematic cost/benefit analysis is not conducted. Instead, the costs, the quality, standardization and fitness of equipment and materials with prior equipment, the credibility of the producers, and the experience of other countries constitute the main factors taken into consideration. In addition, some degree of subjective evaluation is considered in many cases. As a result of these efforts the programming phase is completed by May 15.

*c. The Budgeting Phase*

This discussion is based again on the Instructions for the Budgeting Process [Ref. 16].

By the first months of the current year, in a not predefined date (which varies each year), the Budget Governmental Agency (DGCP) issues a circular with the principal instructions for the budget formulation for the next year (cost classification by line items is one of the requirements of the DGCP). Therefore, as mentioned before, the AF prepares its budget by line items for governmental purposes and by programs for internal management purposes. The expenditure quantification is essentially based on historical costs and rate of inflation, and the Portuguese currency value relative to the currencies used in the acquisition of the imported equipment and materials. The activities and projects extended for more than one fiscal year are budgeted for their entire life. Thus, the budgeting actions involve:

- a. Expenditure estimates of the activities, operations, and projects starting and ending during the budget year.
- b. Cost estimates of the projects starting during the budget year and ending in following years. These estimates are separated by years.
- c. Review and reevaluation of the estimates made in preceding years for the type of activities and projects identified in b.

Usually, the budgeting process for a given year commences before the directive of the DGCP is received. As indicated in Figure 4.3 and mentioned in the preceding subsection, the budgeting process starts at the same time as the programming process with the issue of the programming and budgeting directive in

February. The budget is then prepared in two different areas: (1) at Base Unit level and (2) by the Directorates of the CLAFA. Only the simpler activities and the smaller projects related to basic maintenance and operation are budgeted at BU level. This includes the day to day life of the BU such as consumables, utilities, small and quite inexpensive equipment, and basic maintenance services. All this comprises only about 5% of the total budget. The Directorates of the CLAFA are responsible for the other 95%, based namely on the inputs received from the BUs during the programming process. Costs with military and civilian personnel are centralized and managed at Headquarters level by the Directorate of Finance.

The budget estimates prepared by the BUs and by the Directorates of the CLAFA are sent to the Budget Office by May 15. Then the Budget Office prepares the overall budget under the two formats (by line items and by programs). During this step, supervised by the Logistics Commander, several adjustments and trade-offs are made in a coordinative action with the different Directorates. Before June 30 the budget estimates are submitted for CEMFA's approval. By June 30 the AF budget proposal is sent to the Government. The DGCP, after receiving the budget proposals from all public departments, prepares the overall budget and submits it to the Minister of Finance. Then, successive meetings take place between the DGCP and the Ministry of Finance as a party, and each public department as another party. In this phase the budget proposals of the Armed Forces Services (Navy, Army, Air Force and EMGFA) are treated as a whole. As a result of the meeting talks, justifications, and discussions, a preliminary amount for the Armed Forces Budget is approved by the Government. Further, the Armed Force Services meet together to discuss the amounts that should be appropriated to each service. Based on the results of these talks, the Government establishes the final budget proposals for each service and includes them in the overall Governmental budget proposal which is submitted to the Parliament by October 15.

The Parliament discusses the budget proposal with the Government itself (Ministry of Finance) and with each public department whenever it is deemed necessary. Representatives of each service of the Armed Forces are called for hearings with the Parliament. In this phase some adjustments have to be made. The extent of these adjustments depends on the strength and persuasiveness of the arguments and justifications presented by the services. By December 15 the Budget is passed by the Parliament. By December 31 the President signs the Bill which becomes Law when issued in the Official Bulletin.

The Budget by Programs is revised and adjusted twice. First, as a result of the budget amounts approved by the Government, and second, as a result of the changes made by the Parliament. Finally, on January 1 the fiscal year begins.

***d. The Execution and Control Phase***

(1) *Budget Execution.* After the fiscal year starts and the Budget Law is published in the Official Bulletin, each public department is allowed to execute its budget. As stated before, the budgets are organized by line items. As a general rule, for a given line item the amount apportioned each month must not exceed the number of months passed since the beginning of the fiscal year times the total amount appropriated divided by 12. Exceptions to this rule must be justified on a case by case basis. First, the funds are apportioned monthly to the CLAFAs. Then they are allocated to the different Base Units according to their monthly requests and justifications. All appropriations expire at the end of the fiscal year and are available for readjustments only during two more months.

Reprogramming is made frequently to adjust the programs and budget to new needs and objectives. Supplementals are provided only in extreme cases or derived from new requirements created by law.

All steps relative to the budget execution are recorded in a MIS through computer terminals using the powerful Maintaining, Preparing, and Processing Executive Reports system. These steps are:

- a. Commitment, cost estimate recorded when a requisition is issued or a contract is signed.
- b. Obligation, actual cost recorded when an invoice is received, and the goods are delivered or services are rendered.
- c. Expenditure, payment recorded when a cash disbursement takes place and a receipt is received.

The data inputted in the MIS comprise all elements related not only to the budget by line items (as required by the DGCP) but to the Budget by Programs as well.

(2) *Control.* These data are immediately processed through the MIS in order to provide "real time" information to all levels of management. Thus, timely corrective actions can be taken by each manager through the development of effective feedforward and feedback processes. In addition, monthly reports are prepared by each BU and submitted to the Directorate of Finance for analysis and approval. Based on these monthly reports the Directorate of Finance prepares an annual report

containing all information about the budget execution in the AF. This report is organized by line items and compares the amounts budgeted (after the introduction of the changes made during the year) with the amounts disbursed.

An equivalent report organized in a comparative way with the Budget by Programs is not performed. Consequently, a global analysis and evaluation of the degree of performance of the formulation and execution of the budget is not possible. Another important drawback is the impossibility of allocating common costs to the different cost centers and responsibility centers, since the criteria for such allocation were not defined yet. This and other aspects related with the evaluation of the budgeting system will be treated in the following section.

#### **D. EVALUATION OF THE ACTUAL BUDGETING PROCESS**

Based primarily on the author's experience in the budgeting process at Base level, for almost one decade in the traditional system and for three years in the new system, the contents of this section represents the author's evaluation of the PAF budgeting process. To do this, the questionnaire (presented in the Appendix) was followed in order to establish a direct comparison between the two systems. The twelfth question was not treated because a model like the AFWMAA does not exist in the PAF budgeting process.

##### **1. Degree of Application of PPBS and ZBBS**

Question 1: "To what degree do you consider that the PPBS (Planning, Programming, and Budgeting System) and the ZBBS (Zero Base Budgeting System), as budgeting theories, have been applied in the Air Force Budgeting Process?"

PPBS has not been applied as this system was initially developed. As a matter of fact, the PAF created a system based essentially on three existing systems: (1) the French system "La Rationalization des Choix Budgetaires"; (2) the United States PPBS; and (3) the Canadian PPBS. ZBBS is not applied at all.

##### **2. Bureaucratic Problems Related with the New System**

Question 2: "Do you agree that the application of the PPBS and ZBBS to the Air Force Budgeting Process has increased bureaucratic problems and has constituted more a paperwork exercise?"

The new system increased bureaucratic problems, but it has been more than a paperwork exercise, because the net results are positive and greater than the results of the old system. However, most of the existing bureaucratic problems are related to the



initial implementation of the system, and the changes which followed that were being introduced in order to adjust and fit the system to the real needs in the best way. With more experience and practice, a great part of such problems will be solved.

### **3. Helpfulness of the New System Regarding the Decision-Making Process**

Question 3: "How helpful have these budgeting systems been, regarding the decision-making process?"

At higher management levels the new system has permitted a more meaningful understanding about the missions and goals of the AF. Since the Government and the Parliament can see the output impact of their decisions on the accomplishment of the missions and on the achievement of the objectives, they have become more concerned and involved with their decisions.

Within the AF the system permits, at all levels of management, the evaluation of the accuracy and adherence of the budgeting process in all its phases, and the application of corrective actions on a timely basis. Consequently, the system can be rated as very helpful.

### **4. Influence of Top Management Style**

Question 4: "Do you think that the management style at top levels (DOD, Secretary of the Air Force, Air Force Chief of Staff) has produced meaningful influence and change on the Budgeting Process? Please explain briefly."

The answer is "yes". The greater the degree of commitment and support of top management, the greater the concern and involvement of the people engaged in all the phases of the process at different levels. This is a rule which applies to all kinds of management and relationships between different levels of hierarchy.

### **5. Involvement and Support by Top Management**

Question 5: "How would you rate the degree of involvement and support given by top management (within the Air Force) to the following phases of the Budgeting Process?"

Top management is quite concerned about the planning, programming and budgeting phases, providing directives, promoting meetings, and establishing permanent communication flows with lower levels in both directions (top-down and bottom-up). However, regarding the execution, control and reevaluation phase, the degree of involvement and concern is not so effective. Top management attention has been primarily directed to the largest activities and operations. For a great part of medium and small activities, direct managers have been sometimes left to their own

and, consequently, local and specific objectives have tended to be overstated . In such cases the overall fitness of the different phases of the budgeting process has not been achieved effectively.

#### **6. People Involved in the Budgeting Process**

Question 6: "Do you think that people involved in the Budgeting Process (at your level) are satisfied and motivated, and comprehend the different phases of the process and the goals to be achieved? Could you please explain your thoughts about this issue?"

At Base level, people involved in the budgeting process were not sufficiently trained when the new system was introduced. Instructions were issued through manuals and directives. A few visits by Headquarters personnel were made to some key people at Base level (Commanders and Comptrollers), but all the other players working in the field were not trained about the different phases of the process and the objectives to be achieved. As a result, and because they were required to do a lot more paperwork, they were confused and not well motivated. As far as is known, the situation is quite good now as a consequence of the experience acquired and more guidance and support received from upper management levels.

#### **7. The Control Function**

##### ***a. The Feedback Process***

Question 7: "Explain briefly how the feedback process (i.e. financial reports) has worked , and how effective it has been, namely in the execution, control and reevaluation phases."

At Headquarters level (Directorates) the degree of effectiveness of the feedback and feedforward processes can be improved. Despite the large information provided by the MIS on a "real time" basis, the results of the budget execution, relative to some elements of the Budget by Programs, have not been tracked with the budgets regularly. On the other hand, the monthly financial reports are viewed more as accounting reports than as management tools. However, at Base level a greater concern is given to these things and the potentialities offered by the MIS are used more effectively, with the feedback and feedforward processes working properly. So the consequent benefits are quite positive.

##### ***b. Final Reporting and Variance Analysis***

Question 8: "Is any final comparison performed between the real expenditures disbursed and the values included in the budget? \_\_\_\_\_. If your

answer is yes, what is the impact of the results of the variance analysis on the different phases of the budgeting cycle? Explain briefly."

The answer is "yes" and "no". Regarding the traditional budget by line items, a final comparison is performed between the actual expenditures disbursed and the amounts included in the budget. Nevertheless, the results of this comparison provide little impact on management decisions about the future cycles of the budgeting process.

Relative to the main issue (the Budget by Programs), no final comparison is made. So the positive impact of the variance analysis of the various elements of the Budget by Programs upon the different phases of the budgeting cycle cannot be used as a factor of improvement.

#### **8. Interdependence Between Plans and Programs, and Budgets**

Question 9: "In the PPBS theory the plans and programs drive the budget. Do you think that this happens in practice? Or does the budget drive the plans and programs?"

Initially, at the formulation phase, plans and programs drive the budget since the process follows roughly the steps defined by the PPBS theory. However, when the budget proposal is presented to the Government and the Parliament areas, the process reverses somewhat. So it can be said that at those levels of management the budget drives the plans and programs. This does not mean that the Government and Parliament are not concerned about the Budget by Programs. Indeed they are! But since the AF is the sole department to prepare the budget proposal in such a way, and because the same rules and criteria have to be applied to all departments, the classical budget by line items is still the base for the Government and Parliament decision-making process.

#### **9. Criteria to Allocate Common Costs**

Question 10: "What criteria are more extensively used to allocate common costs to the different responsibility centers or cost centers? How are such criteria applied? Explain briefly please."

There is a gap concerning this point. In fact, common costs are not allocated to the different RCs CCs. Several program elements, called non-specific, were created in order to record common costs. These are costs that cannot be directly inputted to a given RC CC inasmuch as such costs benefit more than one RC CC. This is an important point to be resolved because during the budget execution of fiscal year 1983

about one third of total expenditures were treated as common costs (when some doubt exists the easiest way is to input those costs to non-specific PE).

#### **10. Evaluation of the MIS**

Question 11: "How effective have the application and utilization of a computerized MIS (Management Information System) been in all phases of the Budgeting Process? Could you please outline some of its strengths and weaknesses?"

A computerized MIS has been utilized only in the budgeting and execution phases. Based on the MAPPER system, with terminals set up at all Base Units, this MIS permits the introduction of data on a permanent basis. On the other hand, this "on line" system produces a large variety of information which is permanently available. So, the MIS can be rated as very effective. Some of its strengths and weaknesses are outlined below.

##### ***a. Strengths:***

- Produces a large variety of information on a "real time" basis.
- Great flexibility regarding the data processing. It permits a lot of aggregations and desegregations of the data inputted, providing a large variety of outputs.
- Other than direct managers, top level management can have direct access to the information on a "real time" basis.
- At the end of each fiscal year all the information is treated in a synthesized and standardized manner for statistical and historic purposes.
- Avoids a lot of handiwork, decreasing the clerical costs and producing a kind of outcome not possible in a handwritten manner.

##### ***b. Weaknesses***

- More probability of mistake occurrence not detected, as a result of incorrect data input.
- Highly dependent on the degree of effectiveness of the communication system network in which the MIS operates.

#### **11. Rating the Budgeting Process**

Question 13: "Overall, and looking at the future, how do you rate the actual Air Force Budgeting Process?"

Overall and looking at the future, the actual budgeting process would be rated as quite good (2.5 on a five-point scale). Nevertheless, since the process is still in the first years of its life, it can be improved substantially and reach a rate of excellent in a few years.

#### **12. Expenses Versus Expenditures**

Question 14: "Do you think that it would be feasible and worthwhile to develop an accounting system established on an expense basis (the effective use and

consumption of the goods) rather than on an expenditure basis ( disbursements by the costs of acquiring the goods)? Please outline your thoughts about this issue."

This is a question that has risen in the very last years, based on the fact that the use and consumption of some expensive goods continues for several years far beyond the date of their acquisition. Under a corporation accounting viewpoint such goods should be depreciated over their useful life according to the rate of usage in each year. Under a public accounting viewpoint no positive cash-flows are expected to be produced by military buildings, constructions, or equipment. So when they are acquired, an effective expense occurs and the goods become worthless, financially speaking.

Both viewpoints are right, but the second one seems to be more adequate to the real world. However, when reimbursable services are provided to a third party and "revenues" are recognized, a record costing based on the effective use of the assets (including depreciation) reflects better the real costs incurred. The same reasoning is applied to industrial and commercial funds whose main purpose is to manufacture and sell goods and services to "customers" inside or outside the AF.

Any way, the implementation of an accounting system established on an expense basis would increase paperwork and workload, that is, costs with doubtful benefits (exception for the cases where "revenues" are recognized). Therefore, it would be feasible but not worthwhile to develop an overall accounting system established on an expense basis.

### **13. Summary**

The overall evaluation of the PAF budgeting process can be summarized as stated below.

ZBBS is not used in the PAF budgeting process, while several elements of PPBS are extensively applied. The actual budgeting system created more bureaucratic problems, which have been decreasing as more experience and practice have occurred. People involved in the budgeting process at Base Unit level are being provided with more training and knowledge about the goals and objectives to be achieved. On the other hand, the degree of involvement and support given by top management has been increasing. However the degree of adherence and fitness necessary to be achieved during the development of the budgeting process is still not totally effective, especially during the execution phase.

Despite the existence of a good MIS, its potentialities are not fully utilized and the feedback and feedforward processes can be improved and used more extensively. In addition, a final comparison between the results of the budget execution and the Budget by Programs itself is not prepared, which does not allow the calculation and analysis of variances. Therefore, the degree of effectiveness of the control function can be improved, namely with respect to the quality and quantity of inputs available for the following cycles of the budgeting process.

Common costs are accounted for in non-specific program elements because required criteria for their allocation were not established yet. This procedure has led to recording too many costs as common, which is misleading about what happens in the real world.

It can be said that within the structure of the AF the budget is a natural product of the development of the planning and programming phases. Nevertheless, at Government and Parliament levels the budget is the principal focus, and the AF has to review and adjust its plans and programs as a function of the final budget approved by the Parliament. However, the Budget by Programs has revealed an excellent tool for the decision-making process, not only within the AF but at EMGFA, Government, and Parliament levels as well. It has provided the basis for all arguments and justifications requested during the meetings and hearings relative to budget discussion and analysis.

All in all, the actual budgeting system is much better than the prior one. The increased benefits have more than overwhelmed the possible increased costs. Moreover, the system has sufficient potentialities to respond efficiently and effectively to the present and future management needs. In conclusion, despite the shortfalls described above, the system is good, is becoming better, and will be excellent in a few years.

## **V. SIMILARITIES AND DIFFERENCES BETWEEN THE TWO BUDGETING PROCESSES**

### **A. INTRODUCTION**

This chapter presents a systematic comparison of the main steps and procedures of the two systems, based upon the description, analysis, and evaluation of the budgeting systems used in the USAF and in the PAF. The principal similarities and differences are outlined in order to identify areas for possible improvement.

### **B. SIMILARITIES**

#### **1. Similarities in the Budgeting Structure**

Both systems were designed and now work toward the objectives to be reached rather than the inputs, and both are developed in four main phases: (1) planning; (2) programming; (3) budgeting; and (4) execution and control. Both seek an optimized use of the available resources, and qualitative and quantitative data and information in the most flexible way in order to provide sufficient basis to ensure the decision-making process is as correct as possible.

The FYDP constitutes the basis of the USAF budgeting system, while the Budget by Programs makes up the heart of the PAF budgeting system. There are close similarities between these two budgeting structures, as can be seen through the comparison of Figure 3.2 with the Figure 4.2. Both use program elements as their building blocks, constituting the bridge between the main programs and the other elements of the budgeting structure. Both utilize elements of expense as a means of inputting costs at field level. The functional categories defined in the USAF system can be deemed as equivalent to the classes and categories of costs identified in the PAF system. Although not completely equivalent, both systems have responsibility centers and cost centers.

#### **2. Similarities in the Phases of the Budgeting Process**

The planning process is based on the same theoretical principles in both Air Forces. As a matter of fact, both processes start with the assessment of the threat and attempt to determine the most efficient force structure to meet that threat. Moreover, the underlying philosophy in the definition of the main programs can be deemed as similar in both systems. The timing in which the programming process takes place is

similar in both Air Forces (about 6 months). Although the PDM constitutes the formal document that makes the transition between the USAF programming and budgeting phases, in practice the budgeting phase starts about 4 months earlier with the issuance of internal budget calls.

Only maintenance and operation activities are budgeted at field level (Base level) in both Air Forces. Costs with military personnel are centralized and managed at Headquarters level in both the systems.

The process of review, analysis, discussion, trade-offs, adjustments and consolidation, in order to produce the overall AF budget proposal, is similar in both Air Forces. This process is conducted by the Air Staff Board in the USAF, and by the Logistics Command in the PAF.

A formal reclama proposed by the USAF is not developed in the PAF. However, similar procedures occur during the budget analysis and discussion at EMGFA, Government and Parliament levels.

Both Air Forces develop reprogramming and supplemental processes. The allocation and allotment processes, and the commitment, obligation and expenditure actions are basically similar in the two systems.

In both Air Forces the primary responsibility for monitoring the budget execution rests with the AFB Commanders through frequent reviews. In addition, monthly financial reports are prepared and sent upwards through the chain of command to Headquarters level under the two systems. Special reviews or audits are made whenever significant and relevant unexplained deviations are identified.

### **3. Similarities in Evaluation and Performance**

According to the results of the questionnaire-survey and the author's experience, both systems are considered helpful for the decision-making process at all AF levels of management, and at Governmental and Congressional (Parliament) levels. The increased bureaucratic workload and paperwork required by the actual budgeting systems is overwhelmed by the increased benefits obtained in both Air Forces.

The plans and programs drive the budgets within the structure of both Air Forces. At Government and Parliament (Congress) levels the process reverses somewhat since not all programs are fully funded. Consequently, the unfunded or partially funded programs can be viewed as driven by budgets.

Both Air Forces follow accounting systems based on expenditures made; that is, costs are recorded by the total amounts disbursed, independent of the effective usage



of the goods required. In other words, depreciation of assets with useful life greater than one year is not considered in both Air Forces. However, the USAF maintains an inventory of those goods recorded as investments by their acquisition cost during the entire life of the assets. The PAF also maintains an inventory of such goods but only by physical units.

All in all, both budgeting processes are reported to be good systems, able to respond efficiently and effectively to the present and future management requirements and objectives.

## **C. DIFFERENCES**

### **1. Differences in the Budgeting Structure**

The USAF budgeting structure is essentially based on the PPBS structure as described in Chapter II. The PAF budgeting structure is based upon three systems (the US PPBS, the Canadian PPBS and the French budgeting system). Some aspects of ZBBS were integrated in the USAF budgeting process, but ZBBS is not applied at all in the PAF. The purposes and goals to be attained by the two budgeting processes are not exactly the same. While the USAF system, established at DOD level, attempts to avoid duplications and overlaps through the joint analysis and coordination of the efforts of the different services, the PAF system, unilaterally implemented, cannot meet this goal. Nevertheless, the PAF has a considerable advantage inasmuch as the actual budgeting process permits more arguments to be presented during the budget approval meetings with the other services, the Government and the Parliament.

Responsibility centers are not equivalent in both Air Forces. In reality the PAF considers as RC an AFB or equivalent unit (Base Unit), while the USAF has various levels of RCs within the structure of an AFB. However, it should be taken in consideration that the structure of an AFB is different in each Air Force. US AFBs contain quasi-independent units inside their structure which constitute RCs within other RCs. Consequently, the differences could not be quite significant.

The main programs were defined at DOD level and are common for all branches of the US Armed Forces. But in the PAF the main programs were established independently and separately for its exclusive utilization.

Regarding the program element concept, some relevant differences can be found. The PAF was especially concerned about defining program elements that coincide as much as possible with organizational units; for the activities and costs

common to more than one organizational unit, nonspecific PEs were created. In the USAF, the focus of the program element concept is the mission to be accomplished and the related required resources; several organizational entities are identified in each PE, but the different activities developed by those units may be allocated to more than one PE. PE monitors are appointed as responsible people for the actions developed in the different phases of the budgeting process, relative to each USAF PE. In the PAF, different entities work on the same PE, (namely the Base Units and the Directorates of the CLAFAs) and no PE monitor is appointed.

Although the functional categories of the USAF system can be considered similar to the classes categories of costs of the PAF system, the appropriations are different. In the USAF system, the appropriations are established according to or coinciding to the functional categories, while in the PAF system the appropriations are given by the traditional line item expenditures.

Despite the fact that the "other indicators" mentioned in the PAF budgeting structure constitute some kind of cost accounting objectives, an overall cost accounting system has not been implemented yet in the PAF. The USAF system has a well structured cost accounting system, which allows a determination of the costs incurred with all types of activities, units, systems and sub-systems. The clue is the cost accounting code, one for each of the activities, systems, functions or jobs, whose costs are to be accounted for separately.

RMS is an important tool for the USAF budgeting process especially at the Base level. It defines the responsibilities and functions of the players involved, and establishes rules and procedures for the functional interaction of the different elements of the FYDP. The PAF does not have such a systematic tool; there is some guidance, but not so well structured as RMS; there is a Financial Management Committee (FMC) similar to the Financial Management Board of the US AFBs, chaired by the Base Commander, but there is not any committee similar to the Financial Working Group.

## **2. Differences in the Phases of the Budgeting Process**

The time horizon of the different phases of the budgeting process is one of the principal differences between the two systems. Although the mid-term and near-term planning have a similar time horizon in both Air Forces, the PAF only applies the short-term plan, with a three years horizon, while the USAF considers the long-term plan for about 15 years in advance. In the programming phase, 7 years are considered

(the prior year, the apportionment year and 5 more years in the future) in the USAF, while only two years are fully programmed in the PAF (the current year and the budget year). The USAF budgeting phase encompasses three years (the prior year, the apportionment year, and the budget year), while only two years (the current and the budget year) are considered in the PAF system.

The time schedule for the planning and budgeting processes is quite different in the two Air Forces. The USAF planning process for each fiscal cycle extends for 18 months and ends 16 months before the beginning of the related fiscal year, while in the PAF the process is developed during one year and ends 12 months before the starting of the fiscal year. The PAF budgeting formulation starts one year before the beginning of the related fiscal year and is finalized in 6 months, while within the USAF the process commences about 20 months in advance of the related fiscal year and is completed in 8 months.

In the USAF, the planning process is developed at the DOD level, considering the inputs provided by the various levels of management in each service. In the PAF, the basic planning is conceived at Headquarters level (Planning Division and MAJCOMs).

The Defense Guidance issued by the SECDEF and the Planning Force approved by the CSAF and SECAF are the principal USAF planning documents, while the Defense Plan approved by the EMGFA and the three-years plan approved by the CEMFA constitute the basic PAF planning documents. But the relative importance of these documents is not the same. The Defence Guidance is the master planning document which constitutes the basis for the programming phase in the USAF. In the PAF, the three-years plan is the basic document for the programming phase.

The development and presentation of ranked Program Decision Packages are not made in the PAF, where the programming process is performed at the Logistics Command level by the different Directorates. In the USAF, the programming work is made by the MAJCOMs first, and then discussed, analyzed, and reviewed at Headquarters level by the ASB structure; here a computerized macro-model (AFWMAA) is used to streamline the process and increase the performance of the programming outcomes. The final USAF programming process (PDM) is approved at SECDEF level while the AF programs are approved by the CEMFA.

In the USAF, the budget requests are prepared in three prioritized levels of effort, while only one level is considered in the PAF process. The USAF budget

requests prepared by the different RCs. CCs are analyzed and discussed by the FWG and the Base Budget Office before being submitted to the FMB; in the PAF process, the budget requests presented by the various CCs are analyzed and consolidated by the Base Comptroller who submits them to the Financial Management Committee.

Activities other than maintenance and operations are budgeted at CLAF level in the PAF, while similar activities are budgeted at MAJCOM and at Headquarters level in the USAF. Costs with civilian personnel are budgeted and managed at field level in the USAF, and are centrally managed in the PAF (similarly to costs of military personnel). The PAF prepares two types of budgets: (1) the Budget by Programs, and (2) the budget by line items expenditures, while the USAF presents only the Budget by Programs.

### **3. Differences in Evaluation and Performance**

The USAF prepares financial plans prior to the beginning of the fiscal year, while the PAF does not do that at all. The USAF apportionment process is based on the previous financial plans while the PAF apportionment process is to a great extent based upon the passage of time. Annual and multiple year appropriations are issued for both Air Forces. But while in the USAF, the multiple year appropriations are available for obligations up to three years, in the PAF such appropriations have to be re-appropriated each year and are issued for all time of the project construction. The absorption period (i.e., the period in which appropriations are available for absorbing possible adjustments) is two years in the USAF, and only two months in the PAF. Apportionments, allocations, and allotments are made on a quarterly basis in the USAF, and on a monthly basis in the PAF.

The USAF prepares and sends monthly financial reports to Government levels (OSD and OMB). The PAF does not prepare any similar reports during the budget execution.

The PAF prepares an annual budget execution report by line item expenditures for submission to the Government and Parliament, but does not prepare any similar report relatively to the Budget by Programs. The USAF does not prepare any kind of overall final report at all.

Both Air Forces utilize computerized MIS for tracking and monitoring their budgets. Nevertheless, the PAF system provides updated information to all levels of management on a "real time" basis, while the USAF system requires some waiting time with long delays in some cases. However, a new MIS similar to the PAF system, based on the MAPPER process, is scheduled to be implemented in the USAF in 1987.

The degree of involvement and support provided by top management is considered adequate in all phases of the USAF budgeting process. In the PAF the degree of involvement and support can still be improved, especially during the execution phase. People working with the USAF budgeting process at Base level have a good understanding of the system and are satisfied and motivated. In the PAF the system is still in its first years of implementation, subjected to frequent changes and adjustments, and people involved have revealed some difficulties and misunderstandings about the budgeting process.

The feedback process works quite effectively in the USAF budgeting process. In the PAF, it is used and applied effectively at Base level, but can be improved at Headquarters level.

Common costs are accounted for in nonspecific program elements in the PAF process. The USAF applies different criteria for treating common costs, as a function of their nature. Five main criteria were identified: (1) accumulated separately at Air Staff level; (2) accumulated at MAJCOM level and inputted as a function of activity developed by each identifiable elementary item or unit; (3) allocated at Base level through the job order costing process ; (4) accumulated at Base level and not allocated to the RCs CCs; and (5) managed as stock funds.

#### **D. AREAS FOR POSSIBLE IMPROVEMENT**

Based essentially upon the differences between the two budgeting systems outlined in the preceding section, some areas for possible improvement are identified in this section. Such areas are presented separately for each Air Force.

##### **1. In the USAF Budgeting Process**

The planning, programming, and budgeting phases are prepared considerably in advance relative to the beginning of the related fiscal cycle, and extend for a long time during their development and preparation. Consequently, the degree of accuracy of the forecasts and estimates would be improved if such timing could be shortened.

The number of players and management levels involved in the programming and budgeting phases at Headquarters level (Panels, PRC, BRB, Directorate of Budget, ASB, AFC, CSAF, and SECAF) seems too much. The process is susceptible to more bureaucracy and is time consuming.

Costs with career employees (employees with more than three years of continuous service) are not significantly different (in nature) from the costs with

military personnel. So, they could be treated in the same centralized manner, leading to a possible reduction of clerical costs at field level.

An absorption period, which is opened during two years after the end of the budget execution year, leads to a permanent record costing in three different fiscal years. More mistakes relative to record costing may occur, and the closing of each fiscal year is delayed too much. A two year time period for making possible adjustments in the appropriations constitutes too long a period. If such a period could be reduced, a final report comparing the budget execution with the budget estimates could be prepared, variances outlined and analyzed, and the results transformed into positive inputs for the upcoming phases of the budgeting process.

Apportionments, allocations, and allotments made on a quarterly basis provide the recipients with too large amounts of funds in the beginning of the quarter, and can create shortages of funds at the end. Both the management of Treasury funds and the cash management in each AF unit could improve in efficiency, if apportionments, allocations, and allotments were issued more frequently.

## **2. In the PAF Budgeting Process**

Despite the fact that the PEs are defined in a manner that make them coincide with the BUs as much as possible, different entities develop actions related to the same PE (the BU itself and the Directorates of the CLAFA). Since there is no PE monitor appointed as responsible for coordinating, tracking and monitoring all the activities related to each PE, the degree of adherence and fitness between the budgeting and execution of the PEs is sometimes poor. Consequently, large deviations occur.

It seems more flexible, rational, and consistent with the objectives of the Budget by Programs to have appropriations by functional categories rather than by elements of expenses.

Several "other indicators" provide relevant cost accounting information about some main issues, but a great part of the activities are not included in those indicators. An overall cost accounting system could improve substantially this cost information, with increased benefits for the budgeting management efficiency.

A management tool like RMS could provide relevant benefits and improvements to the actual policies, instructions, and procedures followed at field level. The existence of a committee similar to the Financial Working Group would be very helpful at Base level.

The planning process for only three years could be extended through a longer time horizon with increased benefits. Although the projects extended for more than one year are fully programmed and budgeted from their inception, the programming time period of only one year for all other activities is deemed too short.

The preparation of financial plans on which the apportionments would be based could lead to a greater efficiency relative to the management of the funds requested monthly. The occurrence of surpluses or shortages of funds available would certainly decrease.

The absorption period of only two months has led to Treasury reimbursement of funds that could be employed in programmed activities not completed at the expiring absorption period date.

A final report, comparing the budget execution with the Budget by Programs estimates, would allow the determination and analysis of variances. As a result, relevant inputs could be used in the upcoming phases of the budgeting process.

The degree of involvement and support granted by top management to all phases of the budgeting process has a meaningful influence on the manner of how the things are done, and on the level of adherence and fitness required. Although it has been increased, it could still be improved, especially relative to the execution and control phase. On the other hand, people involved in the budgeting process at all levels should have a complete knowledge about the related objectives, policies, practices, and procedures, should be motivated, and should act in a proactive and empathic way. This status can be improved.

As a corollary of the preceding paragraph, the feedback and feedforward processes would improve significantly. So, the control function could work more effectively and could be fully integrated in the budgeting cycle as a whole.

The allocation of common costs to the different elements of the Budget by Programs is a matter of great concern. The fulfillment of the existing lacuna would improve significantly the efficiency and effectiveness of the entire budgeting process.

The points outlined above constitute the main issues that could be improved, which were identified as a result of the analysis of the similarities and differences between the two budgeting processes. These areas of improvement make up the basis for the recommendations presented in the next chapter.

## **VI. CONCLUSIONS AND RECOMMENDATIONS**

### **A. CONCLUSIONS**

The purpose of this thesis was to identify policies, practices, procedures, and methods followed more effectively by one AF budgeting process that could improve the performance of the other. Although the natural limitations in the amount of time available for the study did not allow a deeper and larger analysis, some significant degree of achievement of the stated purpose was attained. In addition, the questions addressed in Chapter I have received adequate answers which are summarized below.

According to the results of the questionnaire-survey and the author's experience, it was concluded that PPBS is fully applied in the USAF budgeting process, and partially used in the PAF budgeting system, while only the USAF follows some aspects of ZBBS, integrated in the PPBS. Both AF budgeting processes have been very useful for the decision-making process at all management levels.

It was found that the degree of support and involvement of top management on one hand, and the degree of training, knowledge, and empathy of all the players on the other hand, produce a direct effect on the level of performance of the budgeting process. This level of performance is also dependent on the effectiveness and suitability of the MIS applied. The study showed that the effectiveness of the first variable (people) could be improved, especially in the PAF. The second one (MIS) has become obsolete in the USAF, and although not totally effective, is up-to-date and suitable in the PAF. However, a new MIS similar to the PAF system is expected to be implemented by the USAF in 1987.

Some shortfalls were found regarding the effectiveness of the control function in both Air Forces. The lack of final reports for a comparison between the budget execution and the budget estimates, followed by a systematic variance analysis is the most important drawback, which is common to both Air Forces. The other deficiencies were related to the use of the feedback and feedforward processes, whose effectiveness can be improved in both systems.

It was verified that the PAF has not defined any criteria for the allocation of common costs, while the USAF applies several criteria in dealing with this kind of costs. Five different criteria were identified as indicated in the preceding chapter.



Although it could be feasible to establish a record costing system based on an expense basis, a preliminary analysis revealed that such a system would not be worthwhile for all AF activities. Nevertheless, whenever services or goods are provided on a reimbursable basis an expense system should be used.

Several similarities and differences were identified between the two budgeting systems, as outlined in the preceding chapter. The similarities are basically related to the theoretical budgeting principles, which are not substantially different in the two Air Forces. The differences are more related to the time horizon, the time schedule in which the budgeting process takes place, and the structural organization of the players involved. Some of the differences result from the fact that the USAF budgeting process is just a part of the total DOD system, while the PAF budgeting process is not integrated with the budgeting systems of the other services.

More than two decades of application of the actual USAF budgeting process has led to a well structured system with all the phases, steps, timing, practices, procedures, functions, and responsibilities well defined and deeply explained in different kinds of manuals and other publications. Because the PAF budgeting process is still in the first years of implementation, some inconsistencies, unsuitableness, and lacunas were not resolved yet.

Despite the necessary top-down guidance and fiscal constraints established at top level, both the systems allow and require a great degree of decentralization in the decision-making process. As a matter of fact, all levels of management have to define their own objectives as a share of the objectives established at superior levels, and have to identify and quantify the best course of action to meet those objectives. In addition, since managers are accountable for the degree of efficiency of the accomplishment of the proposed objectives, the two budgeting systems constitute also a measure of management performance and evaluation.

On the whole, the two budgeting systems are considered as good and helpful for the quality improvement of the decision-making process and management by objectives. Moreover, their flexibility, and dynamic and cyclical characteristics make them sufficiently able to meet the requirements and management needs for a long future time period.

The principal question addressed in Chapter I, "what methods and practices followed by one of the budgeting processes can be useful to improve the performance of the other?", is answered in the next section through the proposed recommendations.

Such recommendations make up the benefits of this thesis to the extent that they could constitute positive contributions for the improvement of the two budgeting systems.

## **B. RECOMMENDATIONS**

### **1. USAF Budgeting Process**

An effort should be made in order to shorten the time interval between the beginning of each budgeting phase and the beginning of the related fiscal cycle. Also, the time period in which the budgeting phases are prepared should be reduced. As a consequence, more accuracy of the forecasts and estimates would be obtained, and some budgeting rework would be avoided. In other words, efficiency and effectiveness would increase.

The number of organizations involved in the programming and the budgeting phases at Headquarters level should be reduced. As a result, the process would be streamlined, and bureaucracy and time would be cut down.

Costs with some civilian personnel (career employees) should be treated in the same way as costs with military personnel. The benefits obtained would be higher degree of uniformization and standardization of procedures and labor costs, and reduction of clerical costs at field level.

The two-years absorption cost period should be considerably shortened. It is not possible to state what should be the most adequate length of that period. Research should be done in order to define such a period. Insofar as that reduction would permit the preparation of final budget execution reports at a date closer to the end of the respective fiscal year, the effectiveness of the control function would improve.

Apportionments, allocations, and allotments should be issued on a monthly basis rather than on a quarterly basis. As a consequence, Treasury funds management and AF units cash management would improve, reducing the probability and amounts of fund surpluses and shortages at field level.

The effectiveness of the feedback and feedforward processes should be improved. The introduction of a new MIS in 1987 will allow that. On the other hand, a final report comparing the results of the program and budget execution with the program and budget estimates should be prepared and issued as close to the end of the respective fiscal year as possible. Then an adequate variance analysis should be developed in order to evaluate the consistency of dollars spent with approved programs

and budgets. Aggregate data would be provided for evaluation of entire programs, constituting an improved basis for program and budget reviews on the upcoming budgeting cycles.

## **2. PAF Budgeting Process**

The planning process should be extended through a longer time period than only three years. In other words, the foreseen mid-term plan should be implemented, as soon as possible. This mid-term plan would permit the development and application of proactive rather than reactive actions, in response to future events and factors affecting directly or indirectly the AF mission. Moreover, it would allow the programming process to encompass a longer time period.

Once the prior recommendation was implemented, the programming phase should be extended for a five-year period, as it happens in the USAF with visible benefits. A better coordination of the interrelationships among different activities and projects would be attained over a sufficient future time period. As a consequence, the changes, rearrangements, and trade-offs to be introduced would take in consideration their impact over the big picture, for an extended time period. In addition, the time schedule of the programming phase should be anticipated, relative to the budgeting phase, so that the budgeting work would be a natural sequence of the programming outcomes. Certainly more efficiency and effectiveness for the programming and budgeting processes would be achieved.

The PE structure should be reformulated, in order to make them a function of sub-mission areas rather than a function of organizational entities (BUs). The nonspecific PEs should be abolished, inasmuch as their existence is a result of unresolved lacunas in the system. In addition, a PE monitor should be appointed as primarily responsible for all the actions developed regarding each PE, from the programming phase through the execution and control phase. These actions would resolve the actual problems of inputting too much cost to the nonspecific PEs, and the lack of coordination, monitoring and tracking cost allocations made by more than one organizational entity to the same PE.

An overall cost accounting system should be created and implemented, rather than getting cost information about only some sub-systems and sub-functions considered more relevant. This would allow the resolution of the important lacuna (lack of criteria) for common costs allocation, and the nonspecific PEs would become unnecessary. Therefore, a set of criteria similar to that used by the USAF should be implemented.

A regulation equivalent to RMS should be designed and introduced, as an important budgeting tool at field level. With that, the functions, responsibilities, and procedures for each player would be well defined and explained. In addition, a committee similar to the Financial Working Group of the USAF process should be created, so that the Base Comptroller, together with the responsible people for the different CCs would resolve a great part of the problems that at present are brought to the Financial Management Committee. Cost centers managers would feel more involved and accountable for their actions. So, the performance of the budgeting process would improve.

Appropriations should be provided by functional categories of costs rather than by elements of expense. This recommendation slips naturally from the theoretical essence of the Budget by Programs. Apportionments should be based on financial plans prepared and approved in advance, although susceptible to periodic reviews and adjustments. As a consequence, cash management would improve substantially.

The absorption period should be extended for more than two months after the end of the related fiscal year. As was said for the USAF process, an ideal time period cannot be indicated. Nevertheless, based upon the author's experience, at least 6 months should be considered. As a result, late activities and projects could be completed without requiring reprogramming in the following fiscal year.

Top management should give complete support and should be fully involved in all phases of the budgeting process. On the other hand, all participants, at different levels of hierarchy, should be provided with sufficient training and knowledge about goals, policies, practices, and procedures, regarding the different steps and stages of the budgeting process. Detailed manuals and regulations should be distributed and permanently updated. These actions would improve the performance of the different phases of the budgeting process, including the feedback and feedforward processes during the execution and control phase.

As recommended for the USAF budgeting process, a final report about the results of the Budget by Programs execution should be prepared. This report would track the final outcomes of the different elements of the Budget by Programs with the respective program and budget estimates. Resulting deviations would be identified and analyzed, in order to develop the most adequate corrective actions on either the structure of the Budget by Programs or on the procedures related to the phases of the budgeting process, or on both. In a word, the control function would be applied more efficiently and effectively.

As a final recommendation, the actual PAF budgeting system should be applied to the other branches of the Armed Forces. This action would:

- a. Allow an overall analysis and evaluation of the total effort with the national defense made by global program objectives and specific objectives defined for each service.
- b. Avoid duplication of efforts among the different services towards the accomplishment of the same objectives.
- c. Provide the same basis for the budgeting analysis, discussion, and evaluation, at EMGFA, Government, and Parliament levels.

### **3. Future Research**

Regarding the USAF budgeting process, future studies should encompass the MAJCOM and Headquarters levels, and all political levels (from the SECAF through the Office of the President). These studies should find alternative ways in order to: (1) shorten the timing of each budgeting cycle; (2) streamline and reduce the steps and organizations involved in the budgeting process; and (3) define the most feasible short absorption period.

A survey should be done involving the greatest number of participants in the PAF budgeting process as possible in order to: (1) identify strengths and weaknesses of the system other than those mentioned in this thesis; and (2) find the best ways to implement (or reject) the recommendations presented in the preceding subsection, and to resolve all the existing problems and weaknesses.

A survey followed by a cost benefit analysis should be performed in both Air Forces, in order to define what organizations (if any) should adopt an accounting system established on an expense basis rather than on an expenditure basis.

This thesis has not attempted to present solutions for all the problems related to the two budgeting processes. The complexity of those systems and the available time have not allowed the author to go further than what was described, analyzed, and recommended. However, beyond the academic requirements, it is expected that this thesis could provide some meaningful contributions for the performance improvement of both budgeting processes.

## APPENDIX

### QUESTIONNAIRE

1. To what degree do you consider that the PPBS (Planning, Programming, and Budgeting System) and the ZBBS (Zero Base Budgeting System), as budgeting theories, have been applied in the Air Force Budgeting Process? Circle one number on the lines below.

Very high  
degree

Very low  
degree

a. PPBS:     1-----2-----3-----4-----5

b. ZBBS:     1-----2-----3-----4-----5

2. Do you agree that the application of the PPBS and ZBBS to the Air Force Budgeting Process has increased bureaucratic problems and has constituted more a paperwork exercise?

Strongly  
agree

Strongly  
disagree

a. PPBS:     1-----2-----3-----4-----5

b. ZBBS:     1-----2-----3-----4-----5

3. How helpful have these budgeting systems been, regarding the decision-making process:

- a. At higher Administrative levels (Secretary of the Air Force, DOD, OMB, Congress, and Office of the President)?

Very helpful

Not helpful

1-----2-----3-----4-----5

- b. Within the Air Force (Air Force Chief of Staff, Major Commands, and Base and Operating Commands)?

Very helpful

Not helpful

1-----2-----3-----4-----5

4. Do you think that the management style at top levels (DOD, Secretary of the Air Force, Air Force Chief of Staff) has produced meaningful influence and change on the Budgeting Process?

Please explain briefly.

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5. How would you rate the degree of involvement and support given by top management (within the Air Force) to the following phases of the Budgeting Process:

- a. Planning and Programming?

Very high

Very low

1-----2-----3-----4-----5

- b. Budgeting?

Very high

Very low

1-----2-----3-----4-----5

**c. Execution, control and reevaluation?**

**Very high**

**Very low**

1-----2-----3-----4-----5

6. Do you think that people involved in the Budgeting Process (at your level) are satisfied and motivated, and comprehend the different phases of the process and the goals to be achieved?

**Strongly  
agree**

**Strongly  
disagree**

1-----2-----3-----4-----5

Could you please explain your thoughts about this issue?

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7. Explain briefly how the feedback process (i.e. financial reports) has worked , and how effective it has been, namely in the execution, control and reevaluation phases.

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8. Is any final comparison performed between the real expenditures disbursed and the values included in the budget? \_\_\_\_\_.

If your answer is yes, what is the impact of the results of the variance analysis on the different phases of the budgeting cycle?

Explain briefly.

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9. In the PPBS theory the plans and programs drive the budget. Do you think that this happens in practice? Or does the budget drive the plans and programs?

Plans and programs  
drive the budget

Budget drives  
the plans and programs

1-----2-----3-----4-----5

10. What criteria are more extensively used to allocate common costs to the different responsibility centers or cost centers? How are such criteria applied? Explain briefly please.

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11. How effective have the application and utilization of a computerized MIS (Management Information System) been in all phases of the Budgeting Process?

Very effective

Not effective

1-----2-----3-----4-----5

Could you please outline some of its strengths and weaknesses?

a. Strengths:

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b. Weaknesses:

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12. Briefly state your opinion about the role and importance of the AFWMAA (Air Force Wide Mission Area Analysis) as a tool in the planning, programming and budgeting phases.

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13. Overall, and looking at the future, how do you rate the actual Air Force Budgeting Process?

Outstanding

Poor

1-----2-----3-----4-----5

14. Do you think that it would be feasible and worthwhile to develop an accounting system established on an expense basis (the effective use and consumption of the goods) rather than on an expenditure basis ( disbursements by the costs of acquiring the goods)?

Strongly disagree

**Please outline your thoughts about this issue.**

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page.

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